

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matters of	)	
	)	
Implementing Section 503 of RAY BAUM’S Act	)	WC Docket No. 18-335
	)	
Rules and Regulation Implementing the Truth in	)	WC Docket No. 11-39
Caller ID Act of 2009	)	

## SECOND REPORT AND ORDER

**Adopted: August 1, 2019**

**Released: August 5, 2019**

By the Commission: Chairman Pai and Commissioners O’Rielly, Rosenworcel and Starks issuing separate statements.

### I. INTRODUCTION

1. American consumers continue to be plagued by nefarious schemes that manipulate caller identification (caller ID) information to deceive them about the name and phone number of the party that is calling them in order to facilitate fraudulent and other harmful activities. In just the first six months of 2019, the Commission received over 35,000 consumer complaints about caller ID spoofing.

2. The Commission has pursued an aggressive, multi-pronged approach to protecting consumers and putting an end to fraudulent caller ID spoofing. We have issued forfeitures totaling more than \$200 million and proposed another \$37.5 million in fines for violations of our Truth in Caller ID rules in the last year alone,<sup>1</sup> adopted rules enabling voice service providers to block certain clearly unlawful calls *before* they reach consumers,<sup>2</sup> and clarified that voice service providers may offer call-blocking services by default.<sup>3</sup> We have also called for industry to implement a framework called SHAKEN/STIR that allows providers to verify caller ID information by “authenticating” the identity of the calling party to aid in preventing illegal spoofed calls from ever reaching consumers,<sup>4</sup> and to “trace

<sup>1</sup> See Press Release, FCC, FCC Calls on Network Voice Providers to Join Effort to Combat Illegal Spoofed Scam Robocalls (Nov. 6, 2018), <https://docs.fcc.gov/public/attachments/DOC-354942A1.pdf>; 47 CFR §§ 64.1600, 64.1604 (collectively, Truth in Caller ID rules). In one case, we imposed monetary forfeitures against an individual who falsely claimed to be representing well-known travel and hospitality companies such as TripAdvisor, Expedia, Marriott, and Hilton, making more than 96 million illegal spoofed robocalls over a three-month period. *Adrian Abramovich, Marketing Strategy Leaders, Inc., and Marketing Leaders, Inc.*, Forfeiture Order, 33 FCC Rcd 4663 (2018). Another case involved an individual who marketed insurance policies to vulnerable people through a large-scale illegal spoofing campaign. *Best Insurance Contracts, Inc., and Philip Roesel, dba Wilmington Insurance Quotes*, EB-TCD-16-00023195, Forfeiture Order, 33 FCC Rcd 9204 (2018) (*Best Insurance Contracts*).

<sup>2</sup> *Advanced Methods to Target and Eliminate Unlawful Robocalls*, CG Docket No. 17-59, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 9706, 9706, para. 1 (2017).

<sup>3</sup> See *Advanced Methods to Target and Eliminate Unlawful Robocalls; Call Authentication Trust Anchor*, CG Docket No. 17-59, WC Docket No. 17-97, Declaratory Ruling and Third Further Notice of Proposed Rulemaking, FCC 19-51 (rel. June 7, 2019) (*Call Blocking Declaratory Ruling & Third Further Notice*).

<sup>4</sup> *Advanced Methods to Target and Eliminate Unlawful Robocalls*, Notice of Proposed Rulemaking and Notice of Inquiry, 32 FCC Rcd 2306, 2315 (2017) (seeking comment on whether to permit providers to block unauthenticated calls once SHAKEN/STIR is widely deployed); see also *Call Authentication Trust Anchor*, WC Docket 17-97, (continued....)

back” illegal spoofed calls and text messages to their original sources.<sup>5</sup> We have proposed to mandate implementation of SHAKEN/STIR should major voice service providers fail to implement by the end of this year and to adopt a safe harbor for call-blocking programs targeting unauthenticated calls, which may be potentially spoofed.<sup>6</sup>

3. Today, we take the next step in our multi-pronged approach to putting an end to unlawful caller ID spoofing. Specifically, we amend our Truth in Caller ID rules to implement the amendments to section 227(e) of the Communications Act adopted by Congress last year as part of the RAY BAUM’S Act.<sup>7</sup> Consistent with these statutory amendments, we amend our rules to encompass malicious spoofing activities directed at consumers in the United States from actors outside of our country and reach caller ID spoofing using alternative voice and text messaging services. Today’s actions advance our goal of ending the malicious caller ID spoofing that causes billions of dollars of harm to millions of American consumers each year.<sup>8</sup>

## II. BACKGROUND

4. In enacting the Truth in Caller ID Act of 2009, Congress amended section 227 of the Communications Act to create a new subsection (e) focused on prohibiting the use of misleading and inaccurate caller ID information for harmful purposes.<sup>9</sup> In so doing, Congress recognized that there are some legitimate reasons why calling parties may wish to alter the caller ID information displayed to end users.<sup>10</sup> For example, domestic violence shelters sometimes alter caller ID information to ensure the safety of their residents,<sup>11</sup> as do ride sharing services and delivery drivers to protect drivers and

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Notice of Inquiry, 32 FCC Rcd 5988 (2017) (seeking comment on methods to authenticate calls to protect against illegally spoofed robocalls). *See also, e.g.*, Letter from Ajit V. Pai, Chairman, FCC, to John Donovan, CEO, AT&T Communications, at 1 (Nov. 5, 2018), <https://docs.fcc.gov/public/attachments/DOC-354933A2.pdf>.

<sup>5</sup> *See* Letter from Rosemary C. Harold, Chief, FCC Enforcement Bureau, et al., to Jonathan Spalter, President & CEO, USTelecom - The Broadband Association (Nov. 6, 2018) at 1, <https://docs.fcc.gov/public/attachments/DOC-354942A2.pdf> (detailing attempts by USTelecom industry group to “traceback” illegal spoofed robocalls to their original source). Last November, the Enforcement Bureau sent letters to eight voice providers—382 Communications, Global Voicecom, IP Link Telecom, R Squared Telecom, Sonic Systems dba. Talkie Communications, Thing, TouchTone Communications, and XCast Labs—urging them to cooperate with USTelecom’s effort to trace back illegal spoofed robocalls. *See, e.g.*, Letter from Rosemary C. Harold, Chief, FCC Enforcement Bureau, et al., to Daniel Koch, CEO, 382 Communications (Nov. 6, 2018), <https://docs.fcc.gov/public/attachments/DOC-354942A2.pdf>.

<sup>6</sup> *See Call Blocking Declaratory Ruling & Third Further Notice*, FCC 19-51, paras. 49-62, 71-82.

<sup>7</sup> *See* Consolidated Appropriations Act, 2018, Pub. L. No. 115-141, Div. P, Title V, § 503, 132 Stat. 348, 1091-94 (2018) (codified as amended in 47 U.S.C. § 227(e)) (RAY BAUM’S Act); *see also Spoofing Prevention Act of 2017, Report of the S. Comm. on Commerce, Sci., & Transp. on S. 134*, S. Rep. No. 115-91, at 2-3 (2017) (2017 Senate Report), <https://congress.gov/115/crpt/srpt91/CRPT-115srpt91.pdf> (explaining proposed changes to 47 U.S.C. § 227(e) that were subsequently and largely included in section 503 of the RAY BAUM’S Act and acknowledging increased spoofing fraud coming from overseas calls and text messages).

<sup>8</sup> *See 2017 Senate Report* at 2 (citing a 2014 survey estimating that spoofing fraud affected 17.6 million Americans costing \$8.6 billion over a single 12-month period).

<sup>9</sup> *See generally* Truth in Caller ID Act of 2009, Pub. L. No. 111-331, 124 Stat. 3572, 3572 (2010) (Truth in Caller ID Act).

<sup>10</sup> *See Truth in Caller ID Act, Report of the S. Comm. on Commerce, Sci., & Transp. on S. 30*, S. Rep. No. 111-96, at 1-2 (2009), <https://www.congress.gov/111/crpt/srpt96/CRPT-111srpt96.pdf> (2009 Senate Commerce Committee Report).

<sup>11</sup> 2009 Senate Commerce Committee Report at 2. *See also Truth in Caller ID Act of 2010, Report of the H. Comm. on Energy & Commerce*, H.R. Rep. No. 111-461, at 3 (2010), <https://www.congress.gov/111/crpt/hrpt461/CRPT-111hrpt461.pdf>.

passengers.<sup>12</sup> And patients receive voice appointment reminders through phone numbers altered to reflect primary contact numbers to make patients more likely to answer calls.<sup>13</sup> Therefore, rather than prohibiting all caller ID spoofing, Congress made it “unlawful for any person within the United States, in connection with any telecommunications service or IP-enabled voice service, to cause any caller identification service to knowingly transmit misleading or inaccurate caller identification information with the intent to defraud, cause harm, or wrongfully obtain anything of value. . . .”<sup>14</sup> Recognizing the pace of technological changes, Congress directed the Commission to “report to Congress whether additional legislation is necessary to prohibit the provision of inaccurate caller identification information in technologies that are successor or replacement technologies to telecommunications service or IP-enabled voice service.”<sup>15</sup>

5. The Commission adopted implementing rules in 2011 that track the language of the Truth in Caller ID Act with a few modifications to provide clarity or eliminate redundancy.<sup>16</sup> Most significantly, in describing the scope of the prohibited practices, the Commission used the term “Interconnected VoIP Services” in place of the Truth in Caller ID Act’s use of the term “IP-enabled voice service.”<sup>17</sup> The Commission did so because the Act specifies that “IP-enabled voice service” has the “meaning given that term by section 9.3 of the Commission’s regulations.”<sup>18</sup> Section 9.3 of the Commission’s rules, however, defines “interconnected Voice over Internet Protocol (VoIP) service,” not “IP-enabled voice service.”<sup>19</sup> The Commission, therefore, found that the Truth in Caller ID Act rules should use the term “interconnected VoIP services” rather than “IP-enabled voice service” to be consistent with the direction in the Truth in Caller ID Act and the Commission’s existing rules.<sup>20</sup>

6. As directed by the Truth in Caller ID Act, the Commission also submitted a report to Congress on “Caller Identification Information in Successor or Replacement Technologies.”<sup>21</sup> That report identified areas where the statute and the Commission’s implementing rules fell short of protecting consumers from caller ID spoofing with the intent to defraud, cause harm, or wrongfully obtain anything of value.<sup>22</sup> It also discussed spoofing in connection with newer communications services such as text messaging and social media applications.<sup>23</sup> The *2011 Commission Report* concluded by recommending that Congress consider: (1) expanding the scope of the Act to include a prohibition on caller ID spoofing

<sup>12</sup> See Twilio Comments at 8; EZ Texting Reply at 4.

<sup>13</sup> See Twilio Comments at 8.

<sup>14</sup> 47 U.S.C. § 227(e)(1).

<sup>15</sup> *Id.* § 227(e)(4).

<sup>16</sup> *Rules and Regulations Implementing the Truth in Caller ID Act of 2009*, Report and Order, 26 FCC Rcd 9114, 9119, paras. 12, 14-16 (2011) (*2011 Truth in Caller ID Order*).

<sup>17</sup> *Id.* at 9120 n.37; 47 CFR § 64.1600(c), (d), (h).

<sup>18</sup> *2011 Truth in Caller ID Order*, 26 FCC Rcd at 9120 n.37; 47 U.S.C. § 227(e)(8)(C).

<sup>19</sup> 47 CFR § 9.3; see also *2011 Truth in Caller ID Order*, 26 FCC Rcd at 9120 n.37.

<sup>20</sup> See *2011 Truth in Caller ID Order*, 26 FCC Rcd at 9120 n.37, 9125-26, paras. 27-28; *Caller Identification Information Successor or Replacement Technologies*, Report, 26 FCC Rcd 8643, 8645 n.4 (2011), [https://docs.fcc.gov/public/attachments/DA-11-1089A1\\_Rcd.pdf](https://docs.fcc.gov/public/attachments/DA-11-1089A1_Rcd.pdf) (*2011 Commission Report*). The Commission defines interconnected VoIP as a service that: “(1) Enables real-time, two-way voice communication; (2) Requires a broadband connection from the user’s location; (3) Requires Internet protocol-compatible customer premises equipment (CPE); and (4) Permits users generally to receive calls that originate on the public switched telephone network and to terminate calls to the public switched telephone network.” 47 CFR § 9.3.

<sup>21</sup> See generally *2011 Commission Report*, 26 FCC Rcd 8643.

<sup>22</sup> *Id.* at 8645, para. 2.

<sup>23</sup> *Id.*

directed at people in the United States by persons outside the United States; (2) providing guidance on whether it intended additional IP-enabled voice services, other than interconnected VoIP, to fall within the scope of the Act; (3) giving the Commission appropriate authority to regulate spoofing services offered by third parties; and (4) modifying the Act so that it explicitly covers text messaging.<sup>24</sup>

7. In section 503 of the 2018 RAY BAUM'S Act, Congress amended section 227(e) of the Act and adopted three of the four recommendations made in the *2011 Commission Report*. Consistent with the *2011 Commission Report*'s first recommendation, the RAY BAUM'S Act expanded the reach of covered entities from "any person within the United States" to include "any person outside the United States if the recipient is within the United States."<sup>25</sup> It also addressed the *2011 Commission Report*'s second and fourth recommendations, by changing the scope of covered communications from any "telecommunications service or IP-enabled voice service" to a "voice service or a text message sent using a text messaging service."<sup>26</sup> The RAY BAUM'S Act directs the Commission to prescribe rules implementing these amendments to section 227(e) within 18 months of enactment, and makes the statutory amendments effective six months after the Commission prescribes its regulations.<sup>27</sup>

8. Earlier this year, we released a *Notice of Proposed Rulemaking (Notice)* in which we proposed and sought comment on modifications to our current Truth in Caller ID rules that largely track the language of the recent statutory amendments.<sup>28</sup> Commenters urge us to adopt our proposals, noting the explosion of robocalls that use caller ID spoofing to mislead consumers.<sup>29</sup>

### III. IMPLEMENTING NEW STATUTORY SPOOFING PREVENTION AUTHORITY

9. Today, we revise our caller ID rules to implement the RAY BAUM'S Act.<sup>30</sup> As proposed in the *Notice*, we largely track the relevant statutory language in amending our rules.

#### A. Communications Originating Outside the United States

10. We revise our caller ID spoofing rules to cover communications originating outside the United States directed at recipients within the United States, consistent with revised section 227(e).<sup>31</sup> As Congress recognized, the threat to consumers from overseas fraudulent spoofing continues to grow.<sup>32</sup> We

<sup>24</sup> *Id.*

<sup>25</sup> RAY BAUM'S Act § 503(a)(1), 132 Stat. at 1091.

<sup>26</sup> *Id.* at 1091-92.

<sup>27</sup> *Id.*

<sup>28</sup> *See generally Implementing Section 503 of RAY BAUM'S Act; Rules and Regulation Implementing the Truth in Caller ID Act of 2009*, WC Docket Nos. 18-335 and 11-39, Notice of Proposed Rulemaking, 34 FCC Rcd 738 (2019) (*2019 Truth in Caller ID Notice*).

<sup>29</sup> *See, e.g.*, INCOMPAS Reply at 3 (noting the exploitation of legitimate spoofing by bad actors, and that "[t]he rise in fraudulent calls has a deleterious effect on consumer confidence in their communications networks, and companies are spending valuable time and limited resources to respond and resolve the issue—time and resources that could otherwise be used deploying next-generation networks"); 42 State Attorneys General Reply at 3 ("The exponential growth in unlawful scam robocalls is putting more and more of our vulnerable populations at risk."); CTIA Comments at 3 (describing that the texting "ecosystem is an attractive target for bad actors"); Wisc. Dep't of Ag., Trade, Consumer Prot. Comments at 1 (stating majority of consumer complaints to its Bureau of Consumer Protection involve "callers hiding behind spoofed and blocked numbers to steal money and consumer information").

<sup>30</sup> *See generally* RAY BAUM'S Act § 503, 132 Stat. at 1091.

<sup>31</sup> *See* RAY BAUM'S Act § 503(a)(1), 132 Stat. at 1091.

<sup>32</sup> *See, e.g.*, *2017 Senate Report* at 2; *see also* 42 State Attorneys General Reply at 3 ("As State Attorneys General on the front lines fighting these scammers, we are acutely aware that many of these calls are coming from criminals, located overseas, utilizing caller ID spoofing. . ."); FTC, Consumer Information, Michael Atleson, *Get a one-ring*

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therefore agree with the 42 State Attorneys General and other commenters that expanding our rules to cover bad actors reaching into the United States is a “necessary and important step in the continued fight against robocalls,” and that implementing the RAY BAUM’S Act changes will strengthen the Commission’s ability to enforce its rules against fraudulent and other harmful spoofing.<sup>33</sup>

11. To implement the prohibition on caller ID spoofing directed at the United States from callers outside our country, we revise section 64.1604 to read, “No person in the United States, nor any person outside the United States if the recipient is in the United States, shall, with the intent to defraud, cause harm, or wrongfully obtain anything of value, knowingly cause, directly, or indirectly, any caller identification service to transmit or display misleading or inaccurate caller identification information in connection with any voice service or text messaging service.”<sup>34</sup>

12. Finally, we reject Yaana Technologies’ suggestion that we cannot exercise the extraterritorial jurisdiction that Congress expressly provided in section 503 of the RAY BAUM’S Act, which applies only to communications received in the United States.<sup>35</sup> Yaana Technologies cites no specific treaty obligation that the statutory language contravenes, nor other legal barrier to the Commission’s exercise of the legal authority given it by Congress, and we are aware of none. Moreover, the Commission’s ongoing work with our international counterparts on caller ID spoofing issues in various fora is not inconsistent with the jurisdictional framework set forth in the statute.<sup>36</sup>

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\_\_\_\_\_ *call? Don’t call back* (May 7, 2019), <https://www.consumer.ftc.gov/blog/2019/05/get-one-ring-call-dont-call-back> (citing FTC, Consumer Information, Colleen Tressler, “One-ring” cell phone scam can ding your wallet (Feb. 10, 2014), <https://www.consumer.ftc.gov/blog/2014/02/one-ring-cell-phone-scam-can-ding-your-wallet>) (underscoring 2019 resurgence of “one-ring” scam FTC originally reported in 2014); Linda Robertson, *Block Those Robocalls from Scammers and Unwanted Companies. Here’s How to Fight Back*, Miami Herald (June 15, 2019), <https://www.miamiherald.com/news/local/community/miami-dade/article231323738.html> (outlining \$1.2 billion Medicare scam originating overseas targeting U.S. seniors, \$7 billion overseas “one-ring” scam to generate international call fees from U.S. consumers, student loan scam originating domestically and overseas targeting U.S. consumers).

<sup>33</sup> See 42 State Attorneys General Reply at 3 (noting fraudulent caller ID spoofing originating overseas); CTIA Comments at 9-10.

<sup>34</sup> Appx. A (revised rule 47 CFR § 64.1604). While the current Truth in Caller ID rules uses the phrase “person or entity,” we use the language of the statute, which is limited to “person.” At the same time, consistent with congressional intent and Commission precedent, we make clear that “person” includes both natural persons and non-natural persons, e.g., corporations, associations, and partnerships. See, e.g., *2011 Truth in Caller ID Order*, 26 FCC Rcd at 9120, para. 16 (explaining that “person” encompasses natural persons and non-natural entities); 47 U.S.C. § 153(39) (“The term ‘person’ includes an individual, partnership, association, joint-stock company, trust, or corporation.”); 47 CFR § 64.1200(f)(10) (“The term sender for purposes of paragraph (a)(4) of this section means the *person or entity* on whose behalf a facsimile unsolicited advertisement is sent or whose goods or services are advertised or promoted in the unsolicited advertisement.” (emphasis added)). See also Dictionary Act, 1 U.S.C. § 1 (the word “person” “include[s] corporations, companies, associations, firms, partnerships, societies, and joint stock companies, as well as individuals”).

<sup>35</sup> See Yaana Technologies Reply at 5; Letter from Anthony M. Rutkowski, EVP Regulatory & Standards, Yaana Technologies, to Ajit Pai, Chairman, FCC, *et al.* (Mar. 7, 2019), Attach. 1, Anthony M. Rutkowski, *CircleID, Collaboration to Prevent International Call Spoofing: Will the FCC Comply With Ray Baum’s Act?* (describing international cooperation to institute RAY BAUM’S reforms); see also RAY BAUM’S Act § 503(a)(1), 132 Stat. at 1091. Cf. *Cable & Wireless P.L.C. v. FCC*, 166 F.3d 1224 (D.C. Cir. 1999) (finding that the Commission’s establishment of international accounting rate benchmarks did not unlawfully assert regulatory authority over foreign services and carriers, nor did it violate international treaty obligations).

<sup>36</sup> The Commission collaborates with our international counterparts on a bilateral, regional, and multilateral basis. For example, the Enforcement Bureau has executed a bilateral Memoranda of Understanding (MOU) with the Commission’s Canadian counterpart, the Canadian Radio-television and Telecommunications Commission. See, e.g., Memorandum of Understanding between the United States Federal Communications Commission and the

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## B. Expanding the Scope of Covered Communications

13. We also expand the scope of communications covered by our caller ID spoofing rules, consistent with amended section 227(e) and as proposed in the *Notice*.<sup>37</sup> Specifically, we incorporate the phrase “in connection with any voice service or text messaging service” into the prohibition on causing “directly, or indirectly, any caller identification service to transmit or display misleading or inaccurate caller identification information.”<sup>38</sup> We find, consistent with our proposal, that amending our rules to explicitly identify the services within section 64.1604’s prohibition on unlawful spoofing better tracks the language of the statute and provides more direct notice to covered entities as to which services the prohibitions apply.<sup>39</sup>

## C. Definitions

14. To implement Congress’ intent to expand the scope of the prohibition on harmful caller ID spoofing, we adopt definitions of “text message,” “text messaging service,” and “voice service” and revise the definitions of “caller identification information,” and “caller identification service” in accordance with section 503 of the RAY BAUM’S Act. We also adopt definitions of “short message

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Canadian Radio-television and Telecommunications Commission on Mutual Assistance in the Enforcement of Laws on Automated Telephone Calls and Inaccurate Caller Identification (2016),

[https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-342222A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-342222A1.pdf). The Enforcement Bureau is also a member of UCENet, which is an international organization that brings together law enforcement entities across the globe to coordinate and assist each other’s efforts to combat telecommunications fraud, spam, phishing, and the dissemination of computer viruses. *See generally* Member Organizations - Unsolicited Communications Enforcement Network (UCENet), <https://www.ucenet.org/member-organizations/> (last visited May 31, 2019) (outlining international and U.S. federal member agencies). Additionally, the Commission works with its international counterparts in the course of U.S. engagement in relevant regional and multilateral fora, such as the International Telecommunication Union (ITU). *See generally* ITU-T, *ITU-T Work Programme*, [https://www.itu.int/ITU-T/workprog/wp\\_search.aspx?sg=2&q=1](https://www.itu.int/ITU-T/workprog/wp_search.aspx?sg=2&q=1) (last visited June 18, 2019) (detailing the current work programme of ITU-T Study Group 2, which includes, among others, issues related to caller ID spoofing); *see also, e.g.*, ITU-D, *ITU-D Study Groups*, <https://www.itu.int/net4/ITU-D/CDS/sg/index.asp?lg=1&sp=2018> (last visited June 18, 2019) (describing ongoing information-sharing efforts within the ITU Development Sector related to enhancing consumer protection and building confidence in the use of Information and Communications Technologies (ICTs)).

<sup>37</sup> *See* RAY BAUM’S Act § 503(a)(1), 132 Stat. at 1091; *2019 Truth in Caller ID Notice*, 34 FCC Rcd at 742-43, paras. 14-15.

<sup>38</sup> *See* Appendix A (revised rule 47 CFR § 64.1604).

<sup>39</sup> *See* RAY BAUM’S Act § 503(a)(1), 132 Stat. at 1091; *2019 Truth in Caller ID Notice*, 34 FCC Rcd at 745, para. 24. *See also* Consumer Report *et al.* Comments at 1; Comcast Comments at 5; Twilio Comments at 10. As one commenter explains, the inclusion of the statutory phrase “in connection with any voice service or text messaging service” is not strictly necessary, because the phrase is encompassed by the definitions of “caller identification service” and “caller identification information” to which the prohibition applies. *See* John A. Shaw Comments at 3. Amended section 227(e)(8) defines “caller identification service” as “any service or device designed to provide the user of the service or device with the telephone number of, or other information regarding the origination of, a call made using a voice service or a text message sent using a text messaging service. Such term includes automatic number identification services.” 47 U.S.C. § 227(e)(8)(B) as amended by RAY BAUM’S Act § 503(a)(2)(B). Additionally, amended section 227(e)(8) defines “caller identification information” as “information provided by a [caller identification service](#) regarding the telephone number of, or other information regarding the origination of, a call made using a voice service or a text message sent using a text messaging service.” *See* 47 U.S.C. § 227(e)(8)(A) as amended by RAY BAUM’S Act § 503(a)(2)(A). However, the statutory language is clear, and we find that mirroring the statutory language “‘will avoid creating ambiguity’ or deviating from Congress’s choices.” Twilio Comments at 10 (quoting *2019 Truth in Caller ID Notice*, 34 FCC Rcd at 741-42, paras. 10, 12).

service (SMS)” and “multimedia message service (MMS).” These definitions will be included in the definitions section of subpart P to our part 64 rules.<sup>40</sup>

15. *Text Message.* We adopt a definition of “text message” that mirrors the statutory language.<sup>41</sup> Amended section 227(e) defines the term “text message” as a “message consisting of text, images, sounds, or other information that is transmitted to or from a device that is identified as the receiving or transmitting device by means of a 10-digit telephone number or N11 service code.”<sup>42</sup> Congress further clarified that the term explicitly includes “a short message service (SMS) message and a multimedia message service (MMS) message” but excludes “a real-time, two-way voice or video communication” or “a message sent over an IP-enabled messaging service to another user of the same messaging service, except for [an SMS or MMS message].”<sup>43</sup> We find that this definition is sufficiently inclusive to capture the current universe of text messages that could be used for prohibited spoofing activity and will avoid ambiguity as to Congress’ intent.<sup>44</sup> We also believe, and no commenters argue otherwise, that Congress likely included the phrase “‘other information’ out of an abundance of caution to allow for the inclusion of future technological advances given the rapid pace of new developments in technology.”<sup>45</sup>

16. For purposes of our Truth in Caller ID rules, we define “N11 service code” as “an abbreviated dialing code that allows telephone users to connect with a particular node in the network by dialing only three digits, of which the first digit is any digit other than ‘1’ or ‘0,’ and each of the last two digits is ‘1.’” No commenters offered substantive suggestions on how to define “N11 service code,” so we looked to the language the Commission used nearly two decades ago when it described N11 services as “abbreviated dialing arrangements that allow telephone users to connect with a particular node in the network by dialing only three digits,”<sup>46</sup> as well as the definition of “N11 service code” found in the recently-enacted National Suicide Hotline Prevention Act.<sup>47</sup> The definition we adopt today is similar to the Commission’s previous description but provides more specificity by clarifying that the first digit of an

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<sup>40</sup> We also take this opportunity to put in alphabetical order the definitions in Subpart P of Part 64 of our rules. 47 CFR § 64.1600.

<sup>41</sup> We clarify that this definition of “text message” is limited for the purpose of addressing malicious caller ID spoofing. See COHEAO Reply at 2 (“COHEAO recommends that any expansion of the definition should only be for purposes of addressing spoofing ID concerns and not overlap into other areas of the Telephone Consumer Protection Act.”).

<sup>42</sup> One commenter proposes to replace “a 10-digit telephone number” with “a telephone number” in the definition of “text message” because “a telephone number may contain only seven digits if the call is within the same area code.” See John A. Shaw Comments at 3. We find these concerns are misplaced because even when a consumer is only required to dial seven digits of a phone number, there is a 3-digit area code associated with the 7-digit number the consumer has dialed.

<sup>43</sup> RAY BAUM’S Act § 503(a)(2)(C), 132 Stat. at 1092.

<sup>44</sup> See EZ Texting Reply at 5 (arguing that the Commission’s proposed definition of “text message” “appropriately track[s] the statutory language, and the Commission should not stray from that language”). But see CTIA Comments at 2 (“CTIA urges the Commission to use the definition of ‘text message’ from the Wireless Messaging Declaratory Ruling which would provide necessary certainty to the scope of the Commission’s anti-spoofing rules.”).

<sup>45</sup> 2019 Truth in Caller ID Notice, 34 FCC Rcd at 743, para. 17.

<sup>46</sup> *Petition by the United States Department of Transportation for Assignment of an Abbreviated Dialing Code (N11) to Access Intelligent Transportation System (ITS) Services Nationwide*, Third Report and Order and Order on Reconsideration, 15 FCC Rcd 16753, 16755, para. 1 (2000).

<sup>47</sup> National Suicide Hotline Prevention Act of 2018, Pub. L. No. 115-233, H.R. 2345, 115<sup>th</sup> Congress (2018), sec. 2(3).

N11 code is any digit other than “1” or “0”, and that the second two digits are “1,” consistent with the National Suicide Hotline Prevention Act.

17. For purposes of our Truth in Caller ID rules, we adopt definitions of SMS and MMS that are consistent with our descriptions of those terms in the Commission’s 2018 *Wireless Messaging Service Declaratory Ruling*.<sup>48</sup> To that end, we define SMS as “a wireless messaging service that enables users to send and receive short text messages, typically 160 characters or fewer, to or from mobile phones and can support a host of applications.”<sup>49</sup> And we define MMS as “a wireless messaging service that is an extension of the SMS protocol and can deliver a variety of media, and enables users to send pictures, videos, and attachments over wireless messaging channels.”<sup>50</sup> We find that adopting definitions of those terms will provide clarity to interested parties given that Congress expressly defined “text message” to include “a [SMS] message and a [MMS] message”<sup>51</sup> but it did not define those terms.

18. We also clarify that for purposes of our Truth in Caller ID rules, the definition of “text message” includes messages sent to or from a person or entity using Common Short Codes (Short Codes). Short Codes are “5- to 6- digit codes typically used by enterprises for communicating with consumers at high volume.”<sup>52</sup> Short Codes are an addressing mechanism using the SMS and MMS protocols. Like other SMS and MMS messages, messages sent from a person or entity using Short Codes are directed to devices using 10-digit telephone numbers.<sup>53</sup> As a convenience to consumers and to facilitate the delivery of high-volume traffic, wireless providers developed Short Codes, which are administered by the Common Short Code Administration and leased to enterprises. Once a Short Code is assigned to an applicant and before it can be used, each mobile provider must provision that code to the customer, usually through a third-party “aggregator” that handles the provisioning across multiple providers.<sup>54</sup>

19. While, as Twilio explains, Short Codes may be less likely to be used by a person or entity sending messages in connection with malicious caller ID spoofing because the registration and administration process make “the sender of a short code SMS [] far easier to identify than the user of a 10-digit number,”<sup>55</sup> this protection is not absolute. Twilio itself admits that it is not impossible to spoof a Short Code.<sup>56</sup> Consumers have complained about possible Short Code spoofing, and some reporting indicates that Short Codes can be hacked which could lead to spoofing.<sup>57</sup> Nonetheless, CTIA expresses concern about the Commission finding that the definition of “text message” for purposes of our Truth in

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<sup>48</sup> See CTIA Comments at 7 (requesting that the Commission define SMS and MMS as they are described in the *Wireless Messaging Service Declaratory Ruling*); *Petitions for Declaratory Ruling Status of Wireless Messaging Service*, WT Docket No. 08-7, Declaratory Ruling, 33 FCC Rcd 12075 (2018) (*Wireless Messaging Service Declaratory Ruling*).

<sup>49</sup> *Wireless Messaging Service Declaratory Ruling*, 33 FCC Rcd at 12078, para. 8.

<sup>50</sup> *Id.*

<sup>51</sup> RAY BAUM’S Act § 503(a)(2)(C), 132 Stat. at 1092.

<sup>52</sup> *Wireless Messaging Service Declaratory Ruling*, 33 FCC Rcd at 12079, para. 11.

<sup>53</sup> CTIA, Messaging Principles and Best Practices at 2, 11 (Jan. 19, 2017); see also Twilio Comments at 12 (“Common Short Codes are used to send and receive SMS and MMS messages to and from mobile phones.”).

<sup>54</sup> *Wireless Messaging Service Declaratory Ruling*, 33 FCC Rcd at 12079, para. 11.

<sup>55</sup> Twilio Comments at 12.

<sup>56</sup> *Id.*

<sup>57</sup> See, e.g., Chase SMS Short Code, U.S. Short Code Directory (Feb. 3, 2017), <https://usshortcodedirectory.com/directory/short-code-28107/>; Dani Grant, *Texts From AT&T Are Easy to Spoof*, Medium (Jan. 20, 2015), <https://medium.com/@da/texts-from-at-t-are-easy-to-spoof-2b94e17bd17b>.



Caller ID rules includes messages sent to or from a person or entity using Short Codes.<sup>58</sup> CTIA argues that there is no technical evidence in the record that spoofing of Short Codes is possible or has occurred.<sup>59</sup> The record demonstrates that messages sent and received using Short Codes are SMS or MMS messages, and there is nothing in the record that would allow us to conclude that Caller ID associated with a Short Code message cannot be spoofed. We are mindful of Congressional intent to protect against spoofing of SMS and MMS text messages for nefarious purposes, and therefore, because Short Codes are used by a person or entity sending SMS or MMS messages to 10-digit number identified devices, and could be used to perpetrate malicious spoofing, we conclude that the definition of “text message” in section 503 of the RAY BAUM’S Act and in our Truth in Caller ID rules is best interpreted as including messages sent to or from a person or entity using Short Codes.<sup>60</sup>

20. *Exclusions.* Section 227(e) as amended excludes from the definition of “text message” “real-time, two-way voice or video communications” and “a message sent over an IP-enabled messaging service to another user of the same messaging service, except for [an SMS or MMS message].”<sup>61</sup> Accordingly, we adopt both exclusions in our rules. We conclude that “real-time, two-way” communications that are transmitted by means of a 10-digit telephone number or N11 service code are excluded from the definition of “text message” because they are intended by Congress to be included in the definition of “voice service.” We interpret the latter exclusion to include non-MMS or SMS messages sent using IP-enabled messaging services such as iMessage, Google hangouts, WhatsApp, and Skype to other users of the same service. As we explained in the *Notice*, “a message sent from one computer to another computer using WhatsApp, or the ‘chat’ function on Google Hangouts would appear to be an IP-enabled messaging service between users of the same messaging service under the second exclusion in the statutory definition of ‘text message.’”<sup>62</sup> Accordingly, we exclude them from the definition of “text message” in our rules. Similarly, “text communications between or among two or more Skype users or iMessages between or among iPhone users”<sup>63</sup> are also excluded from the definition of “text message.”

21. We also clarify that messages sent over other IP-enabled messaging services that are *not* SMS or MMS—such as Rich Communications Services (RCS)—are excluded from amended section 227(e) of the Act and our implementing rules to the extent such messages are sent to other users of the same messaging service. RCS and similar services may well enable users to send messages that would meet the first prong of the statutory definition of “text message”—a “message consisting of text, images, sounds, or other information that is transmitted to or from a device that is identified as the receiving or transmitting device by means of a 10-digit telephone number or N11 service code.” But the inquiry does

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<sup>58</sup> See Letter from Scott Bergmann, Sr. Vice President, Regulatory Affairs, CTIA to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 18-335, 11-39 (filed July 26, 2019) (CTIA *Ex Parte* Letter).

<sup>59</sup> See *id.* at 2. CTIA also argues that an absence of notice under the Administrative Procedure Act for including Short Codes in the definition of text message and an absence of reference to Short Codes in the RAY BAUM’S Act counsel in favor of not including messages sent from a person or entity using Short Codes in the definition of text message. See *id.* We find CTIA’s arguments to be misplaced. The *Notice* sought comment on the definition of text message that we adopt today, which includes SMS and MMS messages, and the record demonstrates that messages sent and received using Short Codes are SMS or MMS messages. See Twilio Comments at 12-13.

<sup>60</sup> We make clear, however, that our decision only interprets Section 503 of RAY BAUM’S Act in the context of Congress’ specific intent to broadly expand our anti-spoofing rules to encompass other forms of spoofing sent via SMS and MMS, and we make no finding with respect to any other Commission jurisdiction over Short Codes. See CTIA *Ex Parte* Letter at 2, n.8. We also affirm that nothing in this *Second Report and Order* affects our decision in the *Wireless Messaging Service Declaratory Ruling* to refrain from “decid[ing] whether short-code provisioning is a ‘component’ of wireless messaging.” *Wireless Messaging Service Declaratory Ruling*, 33 FCC Rcd at 12087, n.86.

<sup>61</sup> See RAY BAUM’S Act § 503(a)(2)(C), 132 Stat. at 1091-92.

<sup>62</sup> 2019 *Truth in Caller ID Notice*, 34 FCC Rcd at 744-45, para. 22.

<sup>63</sup> *Id.*

not end there. As noted above, while section 227(e) of the Act makes clear that SMS and MMS are included within the definition of “text message,” it simultaneously makes clear that any “message sent over an IP-enabled messaging service to another user of the same messaging service” that is *not* SMS or MMS is excluded.<sup>64</sup> RCS fits comfortably within this exclusion. It is an IP-based asynchronous messaging protocol,<sup>65</sup> and it therefore enables users to send messages “over an IP-enabled messaging service.” Also, RCS enables messages to be sent between users of the same messaging service—that is, other users with RCS-enabled devices.<sup>66</sup> RCS messages sent to other users are thus excluded so long as RCS is not SMS or MMS—which it is not. While RCS has been described as a “successor protocol” to SMS or a “next-generation” SMS, it is not the same thing as SMS or MMS.<sup>67</sup> Rather, as the Commission has previously concluded, RCS has “advanced messaging features” that “allow users to, among other things, use mobile banking services, share high-resolution photos and files, track locations and interact with chatbots.”<sup>68</sup> Congress was plainly aware of RCS—a protocol that was first conceived in 2007<sup>69</sup>—when it amended section 227(e) through the RAY BAUM’S Act last year. Yet, Congress chose to exempt from the definition of “text message” *any* message sent over an IP-enabled messaging service that is not SMS or MMS to another user of the same service, which would include RCS and any other potential successor protocols. Regardless of whether RCS may bear functional similarity to MMS and SMS, the Commission cannot disturb the policy judgment made by Congress to exclude such services from section 227 (a policy judgment perhaps reflecting that the potential for or record of malicious spoofing for such protocols has not yet been established). We therefore agree with Twilio and EZ Texting to the extent they argue that RCS should be excluded from the definition of “text message.”<sup>70</sup>

22. As we explained in the *Notice*, we also find that the new statutory definition of “text message,” and other amendments to section 227(e) under the RAY BAUM’S Act regarding text messages, do not affect the Commission’s finding that text messages are “calls” for purposes of section 227(b).<sup>71</sup> Section 227(b), among other things, places limits on calls made using any automatic telephone

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<sup>64</sup> RAY BAUM’S Act § 503(a)(2)(C), 132 Stat. at 1092.

<sup>65</sup> See *Wireless Messaging Service Declaratory Ruling*, 33 FCC Rcd at 12078, n.28; see also RCS and RCS Business Messaging, Global System for Mobile Communications Association (GSMA), <https://www.gsma.com/futurenetworks/technology/enriched-calling-with-rcs/>.

<sup>66</sup> See Twilio Comments at 13 & n.56 (citing Barbara Krasnoff, *RCS: What it is and why you might want it*, The Verge (Dec. 12, 2018), <https://www.theverge.com/2018/12/12/18137937/rcs-richcommunication-service-messaging-explainer-what-is-google-chat>).

<sup>67</sup> See *Wireless Messaging Service Declaratory Ruling*, 33 FCC Rcd at 12078 nn.28 & 55.

<sup>68</sup> *Id.* at n.28; see also EZ Texting Reply at 6 (describing SMS, MMS, and RCS as separate “members of an associated group or series—namely, messaging protocols”).

<sup>69</sup> See Steven Winkelman, Christian de Looper, *What is RCS messaging? Here’s all you need to know about the successor to SMS*, Digital Trends (June 18, 2019), <https://www.digitaltrends.com/mobile/what-is-rcs-messaging/>; see also John Delaney, IDC, “Insight – RCS and Joyn: Keeping Operators at the Center of Communications,” at 9-11 (Dec. 2012), available at <https://www.gsma.com/futurenetworks/wp-content/uploads/2012/11/IDC-report.RCS-market-prospects.December2012.pdf>.

<sup>70</sup> Twilio Comments at 13; see also EZ Texting Reply at 7 (arguing that “Congress excluded RCS by deliberate choice, not mere inadvertence”). Our determination today that RCS is excluded from the definition of “text message” under amended section 227(e) should not be read as determinative of any future decision by the Commission to classify RCS pursuant to other provisions of the Communications Act. See *Wireless Messaging Service Declaratory Ruling*, 33 FCC Rcd at 12082, n.55 (stating that, “[t]o the extent that successor protocols” such as RCS “share the characteristics of SMS and MMS that we find controlling here, we expect they would be similarly classified” as information services under Title I of the Act).

<sup>71</sup> See *2019 Truth in Caller ID Notice*, 34 FCC Rcd at 745, para. 24; see also, e.g., *Rules and Regulations Implementing the Telephone Consumer Protection Act of 1991*, CG Docket No. 02-278, Report and Order, 18 FCC Rcd 14014, 14115, para. 165 (2003) (section 227(b) applies to “both voice calls and text calls to wireless numbers

(continued....)

dialing system or an artificial or prerecorded voice. Congress placed the new definition of “text message” in section 227(e) rather than in section 227(a),<sup>72</sup> which contains definitions generally applicable throughout section 227. Consequently, we conclude that there is nothing in section 227(e) as amended to suggest that Congress intended to disturb the Commission’s long-standing treatment of text messages under section 227(b), which has been in place since 2003.<sup>73</sup>

23. *Text Messaging Service.* We adopt the statutory definition of “text messaging service” as part of our Truth in Caller ID rules. Section 227(e) as amended defines a “text messaging service” as “a service that enables the transmission or receipt of a text message, including a service provided as part of or in connection with a voice service.”<sup>74</sup> As we explained in the *Notice*, “[m]aintaining consistency with the statutory definition of ‘text messaging service’ for unlawful spoofing prevention is particularly important given that it is only text messages ‘sent using a text messaging service’ that Congress includes within the scope of section 227(e) as amended.”<sup>75</sup> One commenter supports this approach and no commenters oppose it.<sup>76</sup>

24. *Voice Service.* We adopt the definition of “voice service” contained in amended section 227(e) for purposes of our Truth in Caller ID rules. Section 227(e) as amended defines “voice service” as “any service that is interconnected with the public switched telephone network and that furnishes voice communications to an end user using resources from the North American Numbering Plan or any successor to the North American Numbering Plan adopted by the Commission under section 251(e)(1). . . .”<sup>77</sup> It also explicitly includes “transmissions from a telephone facsimile machine, computer, or other device to a telephone facsimile machine.”<sup>78</sup>

25. We interpret the term “voice service” for the purpose of our Truth in Caller ID rules to both include and be more expansive than “telecommunications service” and “interconnected VoIP service” as currently defined in our rules.<sup>79</sup> The statutory language requires that communications encompassed by the definition of “voice service” must be “interconnected” with the public switched

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including, for example, short message service (SMS) calls, provided the call is made to a telephone number assigned to such service”).

<sup>72</sup> 47 U.S.C. § 227(a); 2019 *Truth in Caller ID Notice*, 34 FCC Rcd at 745, para. 24.

<sup>73</sup> See, e.g., *Rules and Regulations Implementing the Telephone Consumer Protection Act of 1991*, 18 FCC Rcd at 14115, para. 165; 2019 *Truth in Caller ID Notice*, 34 FCC Rcd at 745, para. 24; see also COHEAO Reply at 2 (“COHEAO recommends that any expansion of the definition [of text message] should only be for the purposes of addressing spoofing ID concerns and not overlap into other areas of the Telephone Consumer Protection Act.”).

<sup>74</sup> RAY BAUM’S Act § 503(a)(2)(C), 132 Stat. at 1091-92.

<sup>75</sup> See 2019 *Truth in Caller ID Notice*, 34 FCC Rcd at 745, para. 25.

<sup>76</sup> See EZ Texting Reply at 5 (arguing that it is important for the definition of “text messaging service” for unlawful spoofing prevention to be consistent with the statutory definition).

<sup>77</sup> RAY BAUM’S Act § 503(a)(2)(C), 132 Stat. at 1092; see EZ Texting Reply at 5 (arguing that the Commission’s proposed definition of “voice service” “appropriately track[s] the statutory language, and the Commission should not stray from that language”).

<sup>78</sup> RAY BAUM’S Act § 503(a)(2)(C), 132 Stat. at 1092 (definition of “voice service”).

<sup>79</sup> See RAY BAUM’S Act § 503(a)(2)(B), 132 Stat. at 1091 (striking language in 47 U.S.C. § 227(e)(8)); 47 U.S.C. § 227(e)(1). See also 2017 *Senate Report* at 4 (noting that amendments “expand the categories of services in the United States, namely text messaging and other voice services, as defined by the bill, subject to spoofing prohibitions”). Our existing rules cover calls made using “telecommunications service” or “interconnected VoIP service.” 47 CFR § 64.1600(c), (d). Because we received no comments from stakeholders in support of explicitly including the terms “telecommunications service” and “interconnected VoIP service” within the definition of “voice service,” we refrain from doing so at this time.

telephone network (PSTN).<sup>80</sup> We interpret the term “interconnected” as it is used in the definition of “voice service” to include any service that enables voice communications either to the PSTN or from the PSTN, regardless of whether it enables both inbound and outbound communications within the same service.<sup>81</sup> To this end, we interpret the definition of “voice service” to include one-way VoIP service and any similar IP-based or other technology-based calling capability that “furnishes voice communications to an end user using resources from the North American Numbering Plan or any successor to the North American Numbering Plan adopted by the Commission under section 251(e)(1).”<sup>82</sup>

26. We also clarify that the requirement to “us[e] resources from the North American Numbering Plan” in the definition of “voice service” includes one-way VoIP services that allow customers of such services to send voice communications to any end user who uses NANP resources. It does not require the provision of NANP resources directly to the customer of the service (i.e., the spoofer). We therefore disagree with INCOMPAS’ assertion that the definition of “voice service” should exclude one-way VoIP services because such services (1) are not capable of transmitting calls to *and* receiving calls from the PSTN,<sup>83</sup> and (2) do not require NANP resources to furnish voice communications to an end user.<sup>84</sup> Adopting the INCOMPAS approach could exclude significant amounts of unlawful spoofing accomplished through one-way VoIP services and third-party spoofing platforms, which we find to be contrary to the Congressional intent in section 503 of the RAY BAUM’S Act.<sup>85</sup> We observe that in amending section 227(e), Congress neither defined the term “interconnected” for the purposes of section 227(e) nor referenced other statutory provisions or Commission rules where “interconnected” is used as part of the definition of specific categories of communications.<sup>86</sup> We further observe that amended section 227(e) specifically removed from the definition of covered voice services the reference to the definition of “interconnected VoIP service” in section 9.3 of the Commission rules.<sup>87</sup> We find that these actions lend support to our conclusion that Congress intended to broaden the scope of IP-enabled voice services subject to the prohibition on unlawful spoofing in section 227(e).<sup>88</sup>

27. In the *Notice*, we sought comment on “whether we should interpret ‘interconnected’ to include both direct and indirect interconnection to the PSTN to account for different methods of interconnection.”<sup>89</sup> In past Commission investigations, we have found that malicious caller ID spoofing

<sup>80</sup> RAY BAUM’S Act § 503(a)(2)(C), 132 Stat. at 1092.

<sup>81</sup> See *2019 Truth in Caller ID Notice*, 34 FCC Rcd at 747, para. 32.

<sup>82</sup> See RAY BAUM’S Act § 503(a)(2)(E)(i), 132 Stat. at 1092; see also Appx. A. (revised rule 47 CFR § 64.1600).

<sup>83</sup> See INCOMPAS Reply at 5-8.

<sup>84</sup> See *id.* at 5-6, 9-10.

<sup>85</sup> See *2017 Senate Report* at 1-2 (stating that the purpose of the Senate’s legislation is to “empower[]” the FCC to “combat spoofing”).

<sup>86</sup> See, e.g., 47 U.S.C. § 153(25) (defining “interconnected VoIP service”); *id.* at § 332(d)(2) (defining “interconnected service”); see also 47 CFR § 9.3 (defining “Interconnected VoIP service”); 47 CFR § 20.3 (defining “Interconnected service”). In other statutory contexts, the focus in defining the scope of a covered “service” is on the nature or capabilities of an offering made by a provider to members of the public, and not on prohibited uses of communications services by a person whose identity and means of engaging in unlawful conduct are likely unknown to the consumer. Cf., e.g., 47 U.S.C. § 332(d)(1) (requiring that interconnected service be made “available . . . to the public” or “substantial portion” of the public). This difference in statutory text and purpose counsels for a broader construction of interconnected service in this context.

<sup>87</sup> RAY BAUM’S Act § 503(a)(2)(C), 132 Stat. at 1091-92.

<sup>88</sup> This expanded interpretation of “voice service,” however, is limited to our Truth in Caller ID rules, and does not implicate the definitions of “interconnected VoIP” and “interconnected service” elsewhere in the Act and our rules. See Twilio Comments at 10-11.

<sup>89</sup> See *2019 Truth in Caller ID Notice*, 34 FCC Rcd at 747, para. 34.

often relies on “dialing platforms” or “third party platforms.”<sup>90</sup> These platforms provide dialing software that can be used for sending either live or pre-recorded robocalls. Not all of these platforms are directly interconnected to the PSTN, however, as they may require a VoIP or local exchange carrier to connect their customers to the PSTN. Therefore, to ensure that our rules address malicious caller ID spoofing made with the aid of these platforms, and in light of the specific statutory context and purpose of the amended section 227(e), which is directed at persons who “knowingly transmit misleading or inaccurate caller identification information,” we clarify that for the purposes of our Truth in Caller ID rules, “interconnected” includes indirect, as well as direct, interconnection.

28. We conclude that “voice services” include “real-time, two-way voice communications” that are transmitted by means of a 10-digit telephone number or N11 service code. Congress explicitly excluded such communications from the definition of “text message” in section 227(e) as amended.<sup>91</sup> Twilio argues that the phrase “‘real-time, two-way voice communications’ that use ‘a 10-digit telephone number or N11 service code’” is vague and expansive and should not be considered part of the definition of “voice service” for the purpose of our Truth in Caller ID rules because Congress could have easily incorporated that phrase into the definition of “voice service” had it intended such service to be included.<sup>92</sup> Contrary to Twilio’s arguments, we find that phrase to be concrete and specific and we think that it is useful in providing clear boundaries around what types of services are covered by the term “voice services.” As such, we find that such real-time, two way voice communications that are transmitted by means of a 10-digit telephone number or N11 service code are covered by the amended definition of “voice services,” i.e., services “interconnected with the public switched telephone network . . . that furnish[] voice communications to an end user using resources for the North American Numbering Plan . . . .”<sup>93</sup>

29. We decline to include real-time, two-way voice communications between and among closed user groups that do not use 10-digit telephone numbers or N11 service codes in the definition of “voice service,” as such communications do not meet the statutory definition of “voice services.” In the *2011 Commission Report*, the Commission acknowledged that these communications do not present the same degree of caller ID spoofing concern as “interconnected VoIP services.”<sup>94</sup> Since such services “have no connection to the PSTN,” we find that Congress did not intend to reach these types of voice communications, nor do they fall within the definition of “voice services” for purposes of the rules we adopt today.<sup>95</sup>

30. Finally, tracking the language of section 227(e) as amended, we conclude that the definition of “voice service” includes transmissions to “a telephone facsimile machine (fax machine) from

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<sup>90</sup> See, e.g., *Best Insurance Contracts*, 33 FCC Rcd at 9207, para. 9 (describing how the perpetrator of a massive illegal caller ID spoofing campaign used a dialing platform); *Affordable Enterprises of Arizona, LLC*, EB-TCD-17-00024974, Notice of Apparent Liability for Forfeiture, 33 FCC Rcd 9233, 9235-37, paras. 5-10 (2018) (describing the use of a dialing platform to engage in an illegal spoofed telemarketing campaign targeting consumers throughout Arizona).

<sup>91</sup> RAY BAUM’S Act § 503(a)(2)(C), 132 Stat. at 1092; see also *supra* para. 20.

<sup>92</sup> Twilio Comments at 11 n.49.

<sup>93</sup> RAY BAUM’S Act § 503(a)(2)(E), 132 Stat. at 1091-92.

<sup>94</sup> See *2011 Commission Report*, 26 FCC Rcd at 8655-56 (describing Internet-based corporate VoIP networks that enable enterprise customers to communicate with one another through sophisticated end-to-end authentication techniques). One notable example of real-time voice communications that do not give rise to such caller ID spoofing concerns is voice communications between players in online games such as Fortnite. See, e.g., Erik Kain, *How To Use Voice Chat In “Fortnite” On Mobile Devices*, *Forbes* (Mar. 16, 2018, 12:32pm), <https://www.forbes.com/sites/erikkain/2018/03/16/how-to-use-voice-chat-in-fortnite-on-mobile-devices/#58ccc2152826>.

<sup>95</sup> *2019 Truth in Caller ID Notice*, 34 FCC Rcd at 747, para. 33.



a computer, fax machine, or other device.”<sup>96</sup> We believe it is necessary to incorporate this additional specification into our rules to ensure consistency with the RAY BAUM’S Act and avoid confusion as to the scope of the prohibition. Indeed, in response to the *Notice*, one commenter emphasized that its fax line “routinely receives unsolicited material promising treasures if certain steps are taken.”<sup>97</sup>

31. *Caller Identification Information and Caller Identification Service.* We revise the existing definitions of “caller identification information” and “caller identification service” in our rules to be consistent with section 227(e)(8) as amended.<sup>98</sup> In doing so, we mirror the amended statutory text by substituting “voice service or a text message sent using a text messaging service” for “telecommunications service or interconnected VoIP service.” One commenter supports our proposal to adopt these definitions<sup>99</sup> and no commenters oppose it.

#### **D. Other Changes to the Rules**

32. While numerous commenters took the opportunity to advocate for the adoption of the SHAKEN/STIR call authentication framework<sup>100</sup> and for other issues beyond the scope of this proceeding, we decline to make other changes to our Truth in Caller ID rules, or other rules beyond the scope of this proceeding, at this time.<sup>101</sup>

### **IV. PROCEDURAL MATTERS**

33. *Effective Date.* Pursuant to section 503 of the RAY BAUM’S Act, the statutory amendments to section 227(e) will be effective six months after the Commission prescribes its implementing rules.<sup>102</sup> Because the Commission’s rules implementing the amendments to section 227(e) cannot be effective until the statutory amendments themselves are effective, we make the rules adopted here effective six months after adoption and release of this Report and Order, or 30 days after publication in the Federal Register, whichever is later.

34. *Final Regulatory Flexibility Analysis.* As required by the Regulatory Flexibility Act of 1980,<sup>103</sup> the Commission has prepared a Final Regulatory Flexibility Analysis (FRFA) of the possible significant economic impact on small entities of the policies and rules, as proposed, addressed in this *Second Report and Order*. The FRFA is set forth in Appendix B. The Commission will send a copy of this *Second Report and Order*, including the FRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).

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<sup>96</sup> See RAY BAUM’S Act § 503(a)(2)(C), 132 Stat. at 1092. We believe that Congress intended the inclusion of telephone facsimile machine transmissions within the definition of “voice service” to be narrow in scope, and therefore, decline to expand that definition to encompass “a computer or other device whose purpose is to store an image that could have been sent to a telephone facsimile machine,” as suggested by commenter John Shaw. See John A. Shaw Comments at 3.

<sup>97</sup> Cohen, Dippel, and Everest, P.C. Comments at 2.

<sup>98</sup> See RAY BAUM’S Act § 503(a)(2)(C), 132 Stat. at 1091.

<sup>99</sup> See EZ Texting Reply at 5 (arguing that the Commission’s proposed definitions of “caller identification information,” and “caller identification service” “appropriately track the statutory language, and the Commission should not stray from that language” (quoting *2019 Truth in Caller ID Notice*, 34 FCC Rcd at 743-48, paras. 15-38)).

<sup>100</sup> See, e.g., Comcast Comments at 3-4; Consumer Reports et al. Comments at 1; CTIA Comments at 5-6; 42 State Attorneys General Reply at 3.

<sup>101</sup> See Comcast Comments at 5 (proposing that we clarify that a provider originating a call in IP must transmit the calling party name when initiating a call, in addition to the calling party number that originating providers already transmit).

<sup>102</sup> See RAY BAUM’S Act § 503(a)(1), 132 Stat. at 1091.

<sup>103</sup> See 5 U.S.C. § 604.

35. *Paperwork Reduction Act.* This document does not contain new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. In addition, therefore, it does not contain any new or modified information collection burden for small business concerns with fewer than 25 employees, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198.<sup>104</sup>

36. *Congressional Review Act.* The Commission will send a copy of this *Second Report and Order* to Congress and the Government Accountability Office pursuant to the Congressional Review Act.<sup>105</sup>

37. *Contact Person.* For further information about this proceeding, please contact Annick Banoun, FCC Wireline Competition Bureau, Competition Policy Division, 445 12th Street, S.W., Washington, D.C. 20554, at (202) 418-1521, or [annick.banoun@fcc.gov](mailto:annick.banoun@fcc.gov).

## V. ORDERING CLAUSES

38. Accordingly, IT IS ORDERED, pursuant to sections 1, 4(i), 201(b), 227(e), 251(e) and 303 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 201(b), 227(e), 251(e) and 303, and section 503(a)(5), Pub. L. No. 115-141, 132 Stat. 348, 1092 (2018), that this *Second Report and Order* IS ADOPTED.

39. IT IS FURTHER ORDERED that Part 64 of the Commission's rules ARE AMENDED as set forth in Appendix A.

40. IT IS FURTHER ORDERED that, pursuant to sections 1.4(b)(1) and 1.103(a) of the Commission's rules, 47 CFR §§ 1.4(b)(1), 1.103(a), and section 503(a)(5), Pub. L. No. 115-141, 132 Stat. 348, 1092 (2018), this *Second Report and Order* SHALL BE EFFECTIVE six months after adoption and release of this *Second Report and Order*, or 30 days after publication of this *Second Report and Order* in the *Federal Register*, whichever is later.

41. IT IS FURTHER ORDERED that the Commission SHALL SEND a copy of this *Second Report and Order* to Congress and to the Government Accountability Office pursuant to the Congressional Review Act, *see* 5 U.S.C. § 801(a)(1)(A).

42. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this *Second Report and Order*, including the Final Regulatory Flexibility Analysis (FRFA), to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch  
Secretary

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<sup>104</sup> See 44 U.S.C. § 3506(c)(4).

<sup>105</sup> See 5 U.S.C. § 801(a)(1)(A).

## APPENDIX A

## Final Rules

The Federal Communications Commission amends part 64 of Title 47 of the Code of Federal Regulations as follows:

**PART 64 – MISCELLANEOUS RULES RELATING TO COMMON CARRIERS**

\* \* \* \* \*

1. The authority citation for part 64 is revised to read as follows:

**Authority:** 47 U.S.C. 154, 201, 202, 217, 218, 220, 222, 225, 226, 227, 228, 251(a), 251(e), 254(k), 262, 403(b)(2)(B), (c), 616, 620, 1401–1473, unless otherwise noted; Sec. 503, Pub. L. 115-141, 132 Stat. 348.

2. Amend § 64.1600 by revising to read as follows:

**§ 64.1600 Definitions**

\* \* \* \* \*

(c) *Caller identification information.* The term “caller identification information” means information provided by a caller identification service regarding the telephone number of, or other information regarding the origination of, a call made using a voice service or a text message sent using a text messaging service.

(d) *Caller identification service.* The term “caller identification service” means any service or device designed to provide the user of the service or device with the telephone number of, or other information regarding the origination of, a call made using a voice service or a text message sent using a text messaging service.

\* \* \* \* \*

(f) *Charge number.* The term “charge number” refers to the delivery of the calling party’s billing number in a Signaling System 7 environment by a local exchange carrier to any interconnecting carrier for billing or routing purposes, and to the subsequent delivery of such number to end users.

(g) *Information regarding the origination.* The term “information regarding the origination” means any:

- (1) Telephone number;
- (2) Portion of a telephone number, such as an area code;
- (3) Name;
- (4) Location information;
- (5) Billing number information, including charge number, ANI, or pseudo-ANI; or
- (6) Other information regarding the source or apparent source of a telephone call.

(h) *Interconnected VoIP service.* The term “interconnected VoIP service” has the same meaning given the term “interconnected VoIP service” in 47 CFR 9.3 as it currently exists or may hereafter be amended.

(i) *Intermediate Provider.* The term “Intermediate Provider” means any entity that carries or processes traffic that traverses or will traverse the PSTN at any point insofar as that entity neither originates nor terminates that traffic.

(j) *N11 Service Code.* For purposes of this subpart, the term “N11 service code” means an abbreviated dialing code that allows telephone users to connect with a particular node in the network by dialing only three digits, of which the first digit is any digit other than ‘1’ or ‘0’, and each of the last two digits is ‘1’.

(k) *Multimedia message service (MMS)*. The term “multimedia message service” or MMS refers to a wireless messaging service that is an extension of the SMS protocol and can deliver a variety of media, and enables users to send pictures, videos, and attachments over wireless messaging channels.

(l) *Privacy indicator*. The term “Privacy Indicator” refers to information, contained in the calling party number parameter of the call set-up message associated with an interstate call on an Signaling System 7 network, that indicates whether the calling party authorizes presentation of the calling party number to the called party.

(m) *Short message service (SMS)*. The term “short message service” or SMS refers to a wireless messaging service that enables users to send and receive short text messages, typically 160 characters or fewer, to or from mobile phones and can support a host of applications.

(n) *Signaling System 7*. The term “Signaling System 7” (SS7) refers to a carrier to carrier out-of-band signaling network used for call routing, billing and management.

(o) *Text message*. The term “text message”:

(1) means a message consisting of text, images, sounds, or other information that is transmitted to or from a device that is identified as the receiving or transmitting device by means of a 10-digit telephone number or N11 service code;

(2) includes a short message service (SMS) message, and a multimedia message service (MMS) message and

(3) does not include:

(i) a real-time, two-way voice or video communication; or

(ii) a message sent over an IP-enabled messaging service to another user of the same messaging service, except a message described in paragraph (2).

(p) *Text messaging service*. The term “text messaging service” means a service that enables the transmission or receipt of a text message, including a service provided as part of or in connection with a voice service.

(q) *Threatening Call*. The term “threatening call” is any call that conveys an emergency involving danger of death or serious physical injury to any person requiring disclosure without delay of information relating to the emergency.

(r) *Voice service*. The term “voice service”:

(1) means any service that is interconnected with the public switched telephone network and that furnishes voice communications to an end user using resources from the North American Numbering Plan or any successor to the North American Numbering Plan adopted by the Commission under section 251(e)(1); and

(2) includes transmissions from a telephone facsimile machine, computer, or other device to a telephone facsimile machine.

3. Amend § 64.1604 by revising paragraph (a) to read as follows:

**§ 64.1604 Prohibition on transmission of inaccurate or misleading caller identification information.**

(a) No person or entity in the United States, nor any person or entity outside the United States if the recipient is within the United States, shall, with the intent to defraud, cause harm, or wrongfully obtain anything of value, knowingly cause, directly, or indirectly, any caller identification service to transmit or display misleading or inaccurate caller identification information in connection with any voice service or text messaging service.

\* \* \* \* \*

## APPENDIX B

## Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),<sup>1</sup> an Initial Regulatory Flexibility Analysis (IRFA) was incorporated into the Notice of Proposed Rulemaking entitled *Implementing Section 503 of RAY BAUM'S Act, Rules and Regulation Implementing the Truth in Caller ID Act of 2009 (Notice)*, released February 2019.<sup>2</sup> The Commission sought written public comment on the proposals in the *Notice*, including comment on the IRFA. No comments were filed addressing the IRFA. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.<sup>3</sup>

**A. Need for, and Objectives of, the Rules**

2. Nefarious schemes that manipulate caller ID information to deceive consumers about the name and phone number of the party that is calling them, in order to facilitate fraudulent and other harmful activities, continue to plague American consumers. Last year, as part of the RAY BAUM'S Act, Congress amended section 227(e) of the Communications Act to (1) extend its scope to encompass malicious spoofing activities directed at consumers in the United States from actors outside the United States; and (2) extend its reach to caller ID spoofing using alternative voice and text messaging services.<sup>4</sup> In this Report and Order (*Order*), we implement these recently adopted amendments to expand and clarify the Act's prohibition on the use of misleading and inaccurate caller ID information. The amended Truth in Caller ID rules largely adopt the language contained in the RAY BAUM'S Act.<sup>5</sup> The amended rules do not impose record keeping or reporting obligations on any entity.

**B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA**

3. There were no comments filed that specifically addressed the proposed rules and policies presented in the IRFA.

**C. Response to Comments by the Chief Counsel for Advocacy of the SBA**

4. Pursuant to the Small Business Jobs Act of 2010, which amended the RFA, the Commission is required to respond to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the proposed rules as a result of those comments.<sup>6</sup>

5. The Chief Counsel did not file any comments in response to the proposed rules in this proceeding.

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<sup>1</sup> See 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 847 (1996).

<sup>2</sup> See *Implementing Section 503 of RAY BAUM'S Act; Rules and Regulation Implementing the Truth in Caller ID Act of 2009*, WC Docket Nos. 18-335 and 11-39, Notice of Proposed Rulemaking, 34 FCC Rcd 738 (2019) (*2019 Truth in Caller ID Notice*).

<sup>3</sup> See 5 U.S.C. § 604.

<sup>4</sup> See Consolidated Appropriations Act, 2018, Pub. L. No. 115-141, Div. P, Title V, § 503, 132 Stat. 348, 1091-94 (2018) (codified as amended in 47 U.S.C. § 227(e)) (RAY BAUM'S Act); *see also* *Spoofing Prevention Act of 2017, Report of the S. Comm. on Commerce, Sci., & Transp. on S. 134*, S. Rep. No. 115-91, at 2-3 (2017) (*2017 Senate Report*), <https://congress.gov/115/crpt/srpt91/CRPT-115srpt91.pdf> (explaining proposed changes to 47 U.S.C. § 227(e) that were subsequently and largely included in section 503 of the RAY BAUM'S Act; acknowledging increased spoofing fraud coming from overseas calls and text messages; and citing a study estimating spoofing fraud affecting 17.6 million Americans costing \$8.6 billion over a single 12-month period).

<sup>5</sup> See RAY BAUM'S ACT § 503 (a)(2), 132 Stat. at 1091-92.

<sup>6</sup> 5 U.S.C. § 604(a)(3).



**D. Description and Estimate of the Number of Small Entities to Which the Rules Will Apply**

6. The RFA directs agencies to provide a description and, where feasible, an estimate of the number of small entities that may be affected by the final rules adopted pursuant to the *Order*.<sup>7</sup> The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”<sup>8</sup> In addition, the term “small business” has the same meaning as the term “small-business concern” under the Small Business Act.<sup>9</sup> A “small-business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.<sup>10</sup>

7. *Small Businesses, Small Organizations, Small Governmental Jurisdictions.* Our actions, over time, may affect small entities that are not easily categorized at present. We therefore describe here, at the outset, three broad groups of small entities that could be directly affected herein.<sup>11</sup> First, while there are industry specific size standards for small businesses that are used in the regulatory flexibility analysis, according to data from the SBA’s Office of Advocacy, in general a small business is an independent business having fewer than 500 employees.<sup>12</sup> These types of small businesses represent 99.9% of all businesses in the United States which translates to 28.8 million businesses.<sup>13</sup>

8. Next, the type of small entity described as a “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”<sup>14</sup> Nationwide, as of August 2016, there were approximately 356,494 small organizations based on registration and tax data filed by nonprofits with the Internal Revenue Service (IRS).<sup>15</sup>

9. Finally, the small entity described as a “small governmental jurisdiction” is defined generally as “governments of cities, counties, towns, townships, villages, school districts, or special

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<sup>7</sup> See 5 U.S.C. § 604(a)(4).

<sup>8</sup> See 5 U.S.C. § 601(6).

<sup>9</sup> See 5 U.S.C. § 601(3) (incorporating by reference the definition of “small-business concern” in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.”

<sup>10</sup> See 15 U.S.C. § 632.

<sup>11</sup> See 5 U.S.C. § 601(3)-(6).

<sup>12</sup> See SBA, Office of Advocacy, “Frequently Asked Questions, Question 1 – What is a small business?” [https://www.sba.gov/sites/default/files/advocacy/SB-FAQ-2016\\_WEB.pdf](https://www.sba.gov/sites/default/files/advocacy/SB-FAQ-2016_WEB.pdf) (June 2016).

<sup>13</sup> See SBA, Office of Advocacy, “Frequently Asked Questions, Question 2- How many small businesses are there in the U.S.?” [https://www.sba.gov/sites/default/files/advocacy/SB-FAQ-2016\\_WEB.pdf](https://www.sba.gov/sites/default/files/advocacy/SB-FAQ-2016_WEB.pdf) (June 2016).

<sup>14</sup> 5 U.S.C. § 601(4).

<sup>15</sup> Data from the Urban Institute, National Center for Charitable Statistics (NCCS) reporting on nonprofit organizations registered with the IRS was used to estimate the number of small organizations. Reports generated using the NCCS online database indicated that as of August 2016 there were 356,494 registered nonprofits with total revenues of less than \$100,000. Of this number, 326,897 entities filed tax returns with 65,113 registered nonprofits reporting total revenues of \$50,000 or less on the IRS Form 990-N for Small Exempt Organizations and 261,784 nonprofits reporting total revenues of \$100,000 or less on some other version of the IRS Form 990 within 24 months of the August 2016 data release date. See <http://nccs.urban.org/sites/all/nccs-archive/html/tablewiz/tw.php> where the report showing this data can be generated by selecting the following data fields: Report: “The Number and Finances of All Registered 501(c) Nonprofits”; Show: “Registered Nonprofits”; By: “Total Revenue Level (years 1995, Aug to 2016, Aug)”; and For: “2016, Aug” then selecting “Show Results.”

districts, with a population of less than fifty thousand.”<sup>16</sup> U.S. Census Bureau data from the 2012 Census of Governments<sup>17</sup> indicates that there were 90,056 local governmental jurisdictions consisting of general purpose governments and special purpose governments in the United States.<sup>18</sup> Of this number there were 37,132 General purpose governments (county,<sup>19</sup> municipal and town or township<sup>20</sup>) with populations of less than 50,000 and 12,184 Special purpose governments (independent school districts<sup>21</sup> and special districts<sup>22</sup>) with populations of less than 50,000. The 2012 U.S. Census Bureau data for most types of governments in the local government category shows that the majority of these governments have populations of less than 50,000.<sup>23</sup> Based on this data we estimate that at least 49,316 local government jurisdictions fall in the category of “small governmental jurisdictions.”<sup>24</sup>

10. *Wired Telecommunications Carriers.* The U.S. Census Bureau defines this industry as “establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired communications networks. Transmission facilities may be based on a single technology or a combination of technologies. Establishments in this industry use the wired telecommunications network facilities that they operate to provide a variety of services, such as wired telephony services, including

<sup>16</sup> 5 U.S.C. § 601(5).

<sup>17</sup> See 13 U.S.C. § 161. The Census of Government is conducted every five (5) years compiling data for years ending with “2” and “7.” See also Program Description Census of Government <https://factfinder.census.gov/faces/affhelp/jsf/pages/metadata.xhtml?lang=en&type=program&id=program.en.COG#>.

<sup>18</sup> See U.S. Census Bureau, 2012 Census of Governments, Local Governments by Type and State: 2012 - United States-States, <https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG02.US01>. Local governmental jurisdictions are classified in two categories - General purpose governments (county, municipal and town or township) and Special purpose governments (special districts and independent school districts).

<sup>19</sup> See U.S. Census Bureau, 2012 Census of Governments, County Governments by Population-Size Group and State: 2012 - United States-States, <https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG06.US01>. There were 2,114 county governments with populations less than 50,000.

<sup>20</sup> See U.S. Census Bureau, 2012 Census of Governments, Subcounty General-Purpose Governments by Population-Size Group and State: 2012 - United States – States, <https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG07.US01>. There were 18,811 municipal and 16,207 town and township governments with populations less than 50,000.

<sup>21</sup> See U.S. Census Bureau, 2012 Census of Governments, Elementary and Secondary School Systems by Enrollment-Size Group and State: 2012 - United States-States, <https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG11.US01>. There were 12,184 independent school districts with enrollment populations less than 50,000.

<sup>22</sup> See U.S. Census Bureau, 2012 Census of Governments, Special District Governments by Function and State: 2012 - United States-States, <https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG09.US01>. The U.S. Census Bureau data did not provide a population breakout for special district governments.

<sup>23</sup> See U.S. Census Bureau, 2012 Census of Governments, County Governments by Population-Size Group and State: 2012 - United States-States, <https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG06.US01>; Subcounty General-Purpose Governments by Population-Size Group and State: 2012 - United States–States - <https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG07.US01>; and Elementary and Secondary School Systems by Enrollment-Size Group and State: 2012 - United States-States, <https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG11.US01>. While U.S. Census Bureau data did not provide a population breakout for special district governments, if the population of less than 50,000 for this category of local government is consistent with the other types of local governments the majority of the 38, 266 special district governments have populations of less than 50,000.

<sup>24</sup> *Id.*

VoIP services, wired (cable) audio and video programming distribution, and wired broadband internet services. By exception, establishments providing satellite television distribution services using facilities and infrastructure that they operate are included in this industry.”<sup>25</sup> The SBA has developed a small business size standard for Wired Telecommunications Carriers, which consists of all such companies having 1,500 or fewer employees.<sup>26</sup> Census data for 2012 show that there were 3,117 firms that operated that year. Of this total, 3,083 operated with fewer than 1,000 employees.<sup>27</sup> Thus, under this size standard, the majority of firms in this industry can be considered small.

11. *Local Exchange Carriers (LECs)*. Neither the Commission nor the SBA has developed a size standard for small businesses applicable to local exchange services. The closest applicable NAICS Code category is for Wired Telecommunications Carriers, as defined in paragraph 10 of this FRFA. Under that size standard, such a business is small if it has 1,500 or fewer employees.<sup>28</sup> Census data for 2012 show that there were 3,117 firms that operated that year. Of this total, 3,083 operated with fewer than 1,000 employees.<sup>29</sup> The Commission therefore estimates that most providers of local exchange carrier service are small entities.

12. *Incumbent Local Exchange Carriers (incumbent LECs)*. Neither the Commission nor the SBA has developed a small business size standard for incumbent local exchange services. The closest applicable NAICS Code category is Wired Telecommunications Carriers as defined in paragraph 10 of this FRFA. Under that size standard, such a business is small if it has 1,500 or fewer employees.<sup>30</sup> According to Commission data, 3,117 firms operated in that year. Of this total, 3,083 operated with fewer than 1,000 employees.<sup>31</sup> Consequently, the Commission estimates that most providers of incumbent local exchange service are small businesses that may be affected by the rules and policies adopted. 1,307 Incumbent Local Exchange Carriers reported that they were incumbent local exchange service providers.<sup>32</sup> Of this total, an estimated 1,006 have 1,500 or fewer employees.<sup>33</sup> Thus using the SBA’s size standard the majority of incumbent LECs can be considered small entities.

13. *Competitive Local Exchange Carriers (competitive LECs), Competitive Access Providers (CAPs), Shared-Tenant Service Providers, and Other Local Service Providers*. Neither the Commission nor the SBA has developed a small business size standard for these service providers. The appropriate

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<sup>25</sup> U.S. Census Bureau, 2012 NAICS Definitions, “517311 Wired Telecommunications Categories,” <http://www.census.gov/cgi-bin/sssd/naics/naicsrch>.

<sup>26</sup> See 13 CFR § 120.201, NAICS Code 517311.

<sup>27</sup> 2012 U.S. Economic Census, NAICS Code 517311, [http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN\\_2012\\_US\\_51SSSZ2&prodTtype=table](http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_51SSSZ2&prodTtype=table).

<sup>28</sup> See 13 CFR § 120.201, NAICS Code 517311, [http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN\\_2012\\_US\\_51SSSZ2&prodTtype=table](http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_51SSSZ2&prodTtype=table).

<sup>29</sup> 2012 U.S. Economic Census, NAICS Code 517311, [http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN\\_2012\\_US\\_51SSSZ2&prodTtype=table](http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_51SSSZ2&prodTtype=table).

<sup>30</sup> See 13 CFR § 120.201, NAICS Code 517311.

<sup>31</sup> 2012 U.S. Economic Census, NAICS Code 517311, [http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN\\_2012\\_US\\_51SSSZ2&prodTtype=table](http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_51SSSZ2&prodTtype=table).

<sup>32</sup> See FCC, *Trends in Telephone Service*, 5-5, Tbl. 5.3 (Sept. 2010) (*Trends in Telephone Service*), [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-301823A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-301823A1.pdf).

<sup>33</sup> *Id.*

NAICS Code category is Wired Telecommunications Carriers, as defined in paragraph 10 of this FRFA. Under that size standard, such a business is small if it has 1,500 or fewer employees. U.S. Census data for 2012 indicate that 3,117 firms operated during that year. Of that number, 3,083 operated with fewer than 1,000 employees.<sup>34</sup> Based on this data, the Commission concludes that the majority of Competitive LECs, CAPs, Shared-Tenant Service Providers, and Other Local Service Providers are small entities. According to Commission data, 1,442 carriers reported that they were engaged in the provision of either competitive local exchange services or competitive access provider services.<sup>35</sup> Of these 1,442 carriers, an estimated 1,256 have 1,500 or fewer employees. In addition, 17 carriers have reported that they are Shared-Tenant Service Providers, and all 17 are estimated to have 1,500 or fewer employees.<sup>36</sup> In addition, 72 carriers have reported that they are Other Local Service Providers.<sup>37</sup> Of this total, 70 have 1,500 or fewer employees.<sup>38</sup> Consequently, based on internally researched FCC data, the Commission estimates that most providers of competitive local exchange service, competitive access providers, Shared-Tenant Service Providers, and Other Local Service Providers are small entities.

14. *Interexchange Carriers (IXCs).* Neither the Commission nor the SBA has developed a definition for Interexchange Carriers. The closest NAICS Code category is Wired Telecommunications Carriers as defined in paragraph 10 of this FRFA. The applicable size standard under SBA rules is that such a business is small if it has 1,500 or fewer employees.<sup>39</sup> According to Commission data, 359 companies reported that their primary telecommunications service activity was the provision of interexchange services.<sup>40</sup> Of this total, an estimated 317 have 1,500 or fewer employees and 42 have more than 1,500 employees.<sup>41</sup> Consequently, the Commission estimates that the majority of interexchange service providers are small entities that may be affected by the adopted rules.

15. *Local Resellers.* The SBA has developed a small business size standard for Telecommunications Resellers which includes Local Resellers.<sup>42</sup> The Telecommunications Resellers industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households.<sup>43</sup> Establishments in this industry resell telecommunications; they do not operate transmission facilities and infrastructure. Mobile virtual network operators (MVNOs) are included in this industry.<sup>44</sup> Under the SBA's size standard, such a business is small if it has 1,500 or fewer employees.<sup>45</sup> U.S. Census Bureau data for 2012 show that 1,341

<sup>34</sup> [http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN\\_2012\\_US\\_51SSSZ5&prodType=table](http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_51SSSZ5&prodType=table).

<sup>35</sup> See FCC, *Trends in Telephone Service*, 5-5, Tbl. 5.3 (Sept. 2010) (*Trends in Telephone Service*), [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-301823A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-301823A1.pdf).

<sup>36</sup> *Id.*

<sup>37</sup> *Id.*

<sup>38</sup> *Id.*

<sup>39</sup> 13 CFR § 121.201, NAICS Code 517311.

<sup>40</sup> See FCC, *Trends in Telephone Service*, 5-5, Tbl. 5.3 (Sept. 2010) (*Trends in Telephone Service*), [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-301823A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-301823A1.pdf).

<sup>41</sup> *Id.*

<sup>42</sup> See 13 CFR § 121.201; NAICS Code 517911.

<sup>43</sup> U.S. Census Bureau, 2012 NAICS Definition, NAICS Code 517911 "Telecommunications Resellers," <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?input=517911&search=2017+NAICS+Search&search=2017>.

<sup>44</sup> *Id.*

<sup>45</sup> 13 CFR § 121.201, NAICS code 517911.

firms provided resale services during that year.<sup>46</sup> Of that number, all operated with fewer than 1,000 employees.<sup>47</sup> Thus, under this category and the associated small business size standard, the majority of these resellers can be considered small entities. According to Commission data, 213 carriers have reported that they are engaged in the provision of local resale services.<sup>48</sup> Of these, an estimated 211 have 1,500 or fewer employees.<sup>49</sup> Consequently, the Commission estimates that the majority of Local Resellers are small entities.

16. *Toll Resellers.* The Commission has not developed a definition for Toll Resellers. The closest NAICS Code Category is Telecommunications Resellers. The Telecommunications Resellers industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households. Establishments in this industry resell telecommunications; they do not operate transmission facilities and infrastructure. Mobile virtual network operators (MVNOs) are included in this industry.<sup>50</sup> The SBA has developed a small business size standard for the category of Telecommunications Resellers.<sup>51</sup> Under that size standard, such a business is small if it has 1,500 or fewer employees.<sup>52</sup> Census data for 2012 show that 1,341 firms provided resale services during that year. Of that number, 1,341 operated with fewer than 1,000 employees.<sup>53</sup> Thus, under this category and the associated small business size standard, the majority of these resellers can be considered small entities. According to Commission data, 881 carriers have reported that they are engaged in the provision of toll resale services.<sup>54</sup> Of this total, an estimated 857 have 1,500 or fewer employees.<sup>55</sup> Consequently, the Commission estimates that the majority of toll resellers are small entities.

17. *Other Toll Carriers.* Neither the Commission nor the SBA has developed a size standard for small businesses applicable to Other Toll Carriers. This category includes toll carriers that do not fall within the categories of interexchange carriers, operator service providers, prepaid calling card providers, satellite service carriers, or toll resellers. The closest applicable NAICS Code category is for Wired Telecommunications Carriers, as defined in paragraph 10 of this FRFA. Under that size standard, such a business is small if it has 1,500 or fewer employees.<sup>56</sup> Census data for 2012 shows that there were 3,117

<sup>46</sup> See U.S. Census Bureau, *2012 Economic Census of the United States*, Table No. EC1251SSSZ5, *Information: Subject Series - Estab & Firm Size: Employment Size of Firms: 2012* (517911 Telecommunications Resellers), [https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012\\_US/51SSSZ5//naics~517911](https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ5//naics~517911).

<sup>47</sup> *Id.*

<sup>48</sup> See FCC, *Trends in Telephone Service*, 5-5, Tbl. 5.3 (Sept. 2010) (*Trends in Telephone Service*), [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-301823A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-301823A1.pdf).

<sup>49</sup> *Id.*

<sup>50</sup> U.S. Census Bureau, *2012 NAICS Definition*, <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?input=517911&search=2012+NAICS+Search&search=2012> (last visited June 20, 2017) (NAICS 517911 Telecommunications Resellers).

<sup>51</sup> 13 CFR § 121.201 (NAICS code 517911).

<sup>52</sup> See U.S. Census Bureau, *American Fact Finder* (Jan. 08, 2016), [http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN\\_2012\\_US\\_51SSSZ2&prodType=table](http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_51SSSZ2&prodType=table).

<sup>53</sup> *Id.*

<sup>54</sup> FCC, *Trends in Telephone Service*, 5-5, Tbl. 5.3 (Sept. 2010) (*Trends in Telephone Service*), [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-301823A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-301823A1.pdf).

<sup>55</sup> *Id.*

<sup>56</sup> 13 CFR § 121.201, NAICS Code 517311.



firms that operated that year. Of this total, 3,083 operated with fewer than 1,000 employees.<sup>57</sup> Thus, under this category and the associated small business size standard, the majority of Other Toll Carriers can be considered small. According to Commission data, 284 companies reported that their primary telecommunications service activity was the provision of other toll carriage.<sup>58</sup> Of these, an estimated 279 have 1,500 or fewer employees.<sup>59</sup> Consequently, the Commission estimates that most Other Toll Carriers that may be affected by our rules are small entities.

18. *Wireless Telecommunications Carriers (Except Satellite).* This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide communications via the airwaves. Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular services, paging services, wireless internet access, and wireless video services.<sup>60</sup> The appropriate size standard under SBA rules is that such a business is small if it has 1,500 or fewer employees.<sup>61</sup> For this industry, U.S. Census data for 2012 show that there were 967 firms that operated for the entire year.<sup>62</sup> Of this total, 955 firms had employment of 999 or fewer employees and 12 had employment of 1000 employees or more.<sup>63</sup> Thus under this category and the associated size standard, the Commission estimates that the majority of wireless telecommunications carriers (except satellite) are small entities.

19. The Commission's own data—available in its Universal Licensing System—indicate that, as of October 25, 2016, there are 280 Cellular licensees that will be affected by our actions today.<sup>64</sup> The Commission does not know how many of these licensees are small, as the Commission does not collect that information for these types of entities. Similarly, according to internally developed Commission data, 413 carriers reported that they were engaged in the provision of wireless telephony, including cellular service, Personal Communications Service, and Specialized Mobile Radio Telephony services.<sup>65</sup> Of this total, an estimated 261 have 1,500 or fewer employees, and 152 have more than 1,500 employees.<sup>66</sup> Thus, using available data, we estimate that the majority of wireless firms can be considered small.

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<sup>57</sup> [http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN\\_2012\\_US\\_51SSSZ5&prodType=table](http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_51SSSZ5&prodType=table).

<sup>58</sup> See FCC, *Trends in Telephone Service*, 5-5, Tbl. 5.3 (Sept. 2010) (*Trends in Telephone Service*), [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-301823A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-301823A1.pdf).

<sup>59</sup> *Id.*

<sup>60</sup> See U.S. Census Bureau, *American Fact Finder—About the Data*, <https://factfinder.census.gov/faces/affhelp/jsf/pages/metadata.xhtml?lang=en&type=ib&id=ib.en./ECN.NAICS2012.517210> (NAICS Code 517210).

<sup>61</sup> 13 CFR § 121.201 (NAICS code 517210).

<sup>62</sup> U.S. Census Bureau, *American Fact Finder* (Jan 08, 2016), [https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN\\_2012\\_US\\_51SSSZ2&prodType=table](https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_51SSSZ2&prodType=table) (NAICS 51720, “Subject Series - Etab & Firm Size: Employment Size of Establishments for the U.S.: 2012”).

<sup>63</sup> *Id.* Available census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with “1000 employees or more.”

<sup>64</sup> See FCC, *Universal Licensing System*, <http://wireless.fcc.gov/uls> (last visited June 20, 2017). For the purposes of this FRFA, consistent with Commission practice for wireless services, the Commission estimates the number of licensees based on the number of unique FCC Registration Numbers.

<sup>65</sup> See FCC, *Trends in Telephone Service*, 5-5, Tbl. 5.3 (Sept. 2010) (*Trends in Telephone Service*), [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-301823A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-301823A1.pdf).

<sup>66</sup> See *id.*

20. *Wireless Communications Services.* This service can be used for fixed, mobile, radiolocation, and digital audio broadcasting satellite uses. The Commission defined “small business” for the wireless communications services (WCS) auction as an entity with average gross revenues of \$40 million for each of the three preceding years, and a “very small business” as an entity with average gross revenues of \$15 million for each of the three preceding years.<sup>67</sup> The SBA has approved these small business size standards.<sup>68</sup>

21. *Wireless Telephony.* Wireless telephony includes cellular, personal communications services, and specialized mobile radio telephony carriers. The closest applicable SBA category is Wireless Telecommunications Carriers (except Satellite)<sup>69</sup> and the appropriate size standard for this category under the SBA rules is that such a business is small if it has 1,500 or fewer employees.<sup>70</sup> For this industry, U.S. Census Bureau data for 2012 show that there were 967 firms that operated for the entire year.<sup>71</sup> Of this total, 955 firms had fewer than 1,000 employees and 12 firms had 1000 employees or more.<sup>72</sup> Thus under this category and the associated size standard, the Commission estimates that a majority of these entities can be considered small. According to Commission data, 413 carriers reported that they were engaged in wireless telephony.<sup>73</sup> Of these, an estimated 261 have 1,500 or fewer employees and 152 have more than 1,500 employees.<sup>74</sup> Therefore, more than half of these entities can be considered small.

22. *Cable and Other Subscription Programming.* This industry comprises establishments primarily engaged in operating studios and facilities for the broadcasting of programs on a subscription or fee basis. The broadcast programming is typically narrowcast in nature (e.g. limited format, such as news, sports, education, or youth-oriented). These establishments produce programming in their own facilities or acquire programming from external sources. The programming material is usually delivered to a third party, such as cable systems or direct-to-home satellite systems, for transmission to viewers.<sup>75</sup> The SBA size standard for this industry establishes as small, any company in this category which has annual receipts of \$38.5 million or less.<sup>76</sup> According to 2012 U.S. Census Bureau data, 367 firms

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<sup>67</sup> *Amendment of the Commission’s Rules to Establish Part 27, the Wireless Communications Service (WCS)*, Report and Order, 12 FCC Rcd 10785, 10879, para. 194 (1997).

<sup>68</sup> See Letter from Aida Alvarez, Administrator, SBA, to Amy Zoslov, Chief, Auctions and Industry Analysis Division, Wireless Telecommunications Bureau, FCC (filed Dec. 2, 1998) (*Alvarez Letter 1998*).

<sup>69</sup> 13 CFR § 121.201, NAICS code 517210. Wireless Telecommunications Carriers (Except Satellite), <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517210&search=2012+NAICS+Search>.

<sup>70</sup> *Id.*

<sup>71</sup> U.S. Census Bureau, *2012 Economic Census of the United States*, Tbl. EC1251SSSZ5, Information: Subject Series: Estab and Firm Size: Employment Size of Firms for the U.S.: 2012 NAICS Code 517210 (rel. Jan. 8, 2016). [https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012\\_US/51SSSZ5//naics~517210](https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ5//naics~517210).

<sup>72</sup> *Id.* Available census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with “1000 employees or more.”

<sup>73</sup> See FCC, *Trends in Telephone Service*, Tbl. 5.5 (Sept. 2010) (*Trends in Telephone Service*), [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-301823A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-301823A1.pdf).

<sup>74</sup> *Id.*

<sup>75</sup> See U.S. Census Bureau, 2012 NAIC Definition, <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?input=515210&search=2012+NAICS+Search&search=2012> (last visited June 20, 2017) (2012 NAICS code, “515210 Cable and Other Subscription Programming”).

<sup>76</sup> See 13 CFR § 121.201, NAICS Code 515210.

operated for the entire year.<sup>77</sup> Of that number, 319 operated with annual receipts of less than \$25 million a year and 48 firms operated with annual receipts of \$25 million or more.<sup>78</sup> Based on this data, the Commission estimates that the majority of firms operating in this industry are small.

23. *Cable Companies and Systems (Rate Regulation).* The Commission has developed its own small business size standards for the purpose of cable rate regulation. Under the Commission's rules, a "small cable company" is one serving 400,000 or fewer subscribers nationwide.<sup>79</sup> Industry data indicate that there are currently 4,600 active cable systems in the United States.<sup>80</sup> Of this total, all but nine cable operators nationwide are small under the 400,000-subscriber size standard.<sup>81</sup> In addition, under the Commission's rate regulation rules, a "small system" is a cable system serving 15,000 or fewer subscribers.<sup>82</sup> Current Commission records show 4,600 cable systems nationwide.<sup>83</sup> Of this total, 3,900 cable systems have fewer than 15,000 subscribers, and 700 systems have 15,000 or more subscribers, based on the same records.<sup>84</sup> Thus, under this standard as well, we estimate that most cable systems are small entities.

24. *Cable System Operators (Telecom Act Standard).* The Communications Act of 1934, as amended, also contains a size standard for small cable system operators, which is "a cable operator that, directly or through an affiliate, serves in the aggregate fewer than one percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed \$250,000,000." There are approximately 52,403,705 cable video subscribers in the United States today.<sup>85</sup> Accordingly, an operator serving fewer than 524,037 subscribers shall be deemed a small operator if its annual revenues, when combined with the total annual revenues of all its affiliates, do not exceed \$250 million in the aggregate.<sup>86</sup> Based on available data, we find that all but nine incumbent cable

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<sup>77</sup> See U.S. Census Bureau, *2012 Economic Census of the United States*, Tbl. EC1251SSSZ4, Information: Subject Series - Estab & Firm Size: Receipts Size of Firms for the U.S.: 2012, NAICS Code 515210, [https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012\\_US/51SSSZ4/naics~515210](https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ4/naics~515210).

<sup>78</sup> *Id.* Available census data does not provide a more precise estimate of the number of firms that have receipts of \$38.5 million or less.

<sup>79</sup> 47 CFR § 76.901(e).

<sup>80</sup> *Assessment and Collection of Regulatory Fees for Fiscal Year 2014; Assessment and Collection of Regulatory Fees for Fiscal Year 2013; and Procedures for Assessment and Collection of Regulatory Fees*, Notice of Proposed Rulemaking, Second Further Notice of Proposed Rulemaking, and Order, 29 FCC Rcd 6417, 6455 (2015) (citing Aug. 15, 2015 Report from the Media Bureau based on data contained in the Commission's Cable Operations and Licensing System (COALS), [www.fcc.gov/coals](http://www.fcc.gov/coals)).

<sup>81</sup> See SNL KAGAN, <https://www.snl.com/interactiveX/MyInteractive.aspx?mode=4&CDID=A-821-38606&KLPT=8> (subscription required).

<sup>82</sup> 47 CFR § 76.901(c).

<sup>83</sup> *Assessment and Collection of Regulatory Fees for Fiscal Year 2014; Assessment and Collection of Regulatory Fees for Fiscal Year 2013; and Procedures for Assessment and Collection of Regulatory Fees*, Notice of Proposed Rulemaking, Second Further Notice of Proposed Rulemaking, and Order, 29 FCC Rcd 6417, 6455 (2015) (citing August 15, 2015 Report from the Media Bureau based on data contained in the Commission's Cable Operations and Licensing System (COALS), [www.fcc.gov/coals](http://www.fcc.gov/coals)).

<sup>84</sup> *Id.*

<sup>85</sup> *Assessment and Collection of Regulatory Fees for Fiscal Year 2016*, Notice of Proposed Rulemaking, 31 FCC Rcd 5757, Appx. E para. 23 (2016) (citing Office of Management and Budget (OMB) Memorandum M-10-06, Open Government Directive, Dec. 8, 2009).

<sup>86</sup> 47 CFR § 76.901(f).

operators are small entities under this size standard.<sup>87</sup> We clarify that the Commission neither requests nor collects information on whether cable system operators are affiliated with entities whose gross annual revenues exceed \$250 million.<sup>88</sup> Although it seems certain that some of these cable system operators are affiliated with entities whose gross annual revenues exceed \$250,000,000, we are unable at this time to estimate with greater precision the number of cable system operators that would qualify as small cable operators under *the* definition in the Communications Act.

25. *All Other Telecommunications.* This category is comprised of establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation.<sup>89</sup> This industry also includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems.<sup>90</sup> Establishments providing Internet services or voice over Internet protocol (VoIP) services via client-supplied telecommunications connections are also included in this industry.<sup>91</sup> The SBA has developed a small business size standard for All Other Telecommunications, which consists of all such firms with annual receipts of \$32.5 million or less.<sup>92</sup> For this category, U.S. Census Bureau data for 2012 shows that there were 1,442 firms that operated for the entire year.<sup>93</sup> Of those firms, a total of 1,400 had annual receipts less than \$25 million and 42 firms had annual receipts of \$25 million to \$49,999,999.<sup>94</sup> Thus, the Commission estimates that the majority of “All Other Telecommunications” firms potentially affected by our action can be considered small.

**E. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities**

26. This *Order* modifies the Commission’s Truth in Caller ID rules by adopting in large part the language in section 227(e) as amended.<sup>95</sup> The amended rules adopted in the *Order* do not contain reporting or recordkeeping requirements.

**F. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered**

27. The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its approach, which may include the following four alternatives (among others): “(1) the establishment of differing compliance or reporting requirements or

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<sup>87</sup> *Assessment & Collection of Regulatory Fees for Fiscal Year 2016*, Notice of Proposed Rulemaking, 31 FCC Rcd 5757, Appx. E para. 23 (2016).

<sup>88</sup> The Commission does receive such information on a case-by-case basis if a cable operator appeals a local franchise authority’s finding that the operator does not qualify as a small cable operator pursuant to section 76.901(f) of the Commission’s rules. See 47 CFR § 76.901(f).

<sup>89</sup> See U.S. Census Bureau, 2017 NAICS Definitions, NAICS Code “517919 All Other Telecommunications,” <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?input=517919&search=2017+NAICS+Search&search=2017>.

<sup>90</sup> *Id.*

<sup>91</sup> *Id.*

<sup>92</sup> See 13 CFR § 121.201, NAICS code 517919.

<sup>93</sup> U.S. Census Bureau, 2012 *Economic Census of the United States*, Tbl. EC1251SSSZ4, Information: Subject Series - Estab and Firm Size: Receipts Size of Firms for the United States: 2012, NAICS code 517919, [https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012\\_US/51SSSZ4/naics~517919](https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ4/naics~517919).

<sup>94</sup> *Id.*

<sup>95</sup> 47 CFR §§ 64.1600 et seq.

timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof for such small entities.”<sup>96</sup>

28. The relevant portions of the RAY BAUM’S Act do not distinguish between small entities and other entities and individuals. Today’s *Order* largely tracks the statutory language and, as a result, the adopted revisions to the Commission’s rules do not result in significant economic impact to small entities.

#### **G. Report to Congress**

29. The Commission will send a copy of the *Order*, including this FRFA, in a report to Congress pursuant to the Congressional Review Act.<sup>97</sup> In addition, the Commission will send a copy of the *Order*, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Order* and FRFA (or summaries thereof) will also be published in the *Federal Register*.<sup>98</sup>

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<sup>96</sup> 5 U.S.C. § 603(c)(1)-(4).

<sup>97</sup> See 5 U.S.C. § 801(a)(1)(A).

<sup>98</sup> See 5 U.S.C. § 604(b).



**STATEMENT OF  
CHAIRMAN AJIT PAI**

Re: *Implementing Section 503 of RAY BAUM'S Act*, WC Docket No. 18-335; *Rules and Regulation Implementing the Truth in Caller ID Act of 2009*, WC Docket No. 11-39.

In the first half of this year alone, the FCC received more than 35,000 consumer complaints about caller ID spoofing. Whether it's neighborhood spoofing, which makes it look like an incoming call is from a local number, or spoofing the number of a company or government agency that consumers know and trust, scammers continue to hide behind spoofed numbers to deceive and defraud American consumers out of money and personal information. And as a bipartisan coalition of more than 40 state attorneys general has warned, spoofing fraud is by no means limited to traditional phone calls made from within the United States: "As State Attorneys General on the front lines fighting these scammers, we are acutely aware that many of these calls are coming from criminals, located overseas, utilizing caller ID spoofing, and we are also seeing more scams being perpetrated via text message."<sup>99</sup>

Today, we rely on new authority provided by Congress in RAY BAUM'S Act to update our rules to cover these additional forms of spoofing. First, we extend the reach of our current Truth in Caller ID rules to cover communications originating outside the United States directed at American consumers. Second, we expand the scope of communications covered by our Truth in Caller ID rules to include text messaging and alternative voice services, such as one-way interconnected VoIP services. With these changes, the FCC will be able to go after bad actors who spoof text messages and those overseas who prey on consumers in this country.

And with today's *Second Report and Order*, we continue our multi-pronged approach to combatting malicious caller ID spoofing. We've issued more than \$200 million in forfeitures and proposed another \$37.5 million in fines for violations of our Truth in Caller ID rules in the last year alone. We've established rules allowing voice service providers to block certain spoofed calls before they reach consumers' phones, and we recently clarified that phone companies may offer call-blocking services by default. We've also called on the phone industry to "trace back" illegal spoofed calls and text messages to their original sources and to implement by the end of this year a caller ID authentication framework called SHAKEN/STIR. We recently proposed creating a safe harbor for call-blocking programs targeting unauthenticated calls, which may be potentially spoofed. And we've proposed to mandate implementation of SHAKEN/STIR if major voice service providers fail to do so by the end of 2019. But much work remains to be done, and we will not relent in our efforts to fight the persistent problem of spoofing fraud.

For their work to protect American consumers from this scourge of civilization, I'd like to thank Pamela Arluk, Allison Baker, Annick Banoun, Micah Caldwell, Rebecca Chambers, Alex Espinoza, Justin Faulb, Lisa Hone, Melissa Kirkel, and Kris Monteith from the Wireline Competition Bureau; Erin Boone, Garnet Hanley, Donald Stockdale, Jennifer Salhus, and Suzanne Tetreault from the Wireless Telecommunications Bureau; Malena Barzilai, Ashley Boizelle, Tom Johnson, Rick Mallen, Linda Oliver, and William Richardson from the Office of General Counsel; Eric Burger, Octavian Carare, Pramesh Jobanputra, Giulia McHenry, and Emily Talaga from the Office of Economics and Analytics; Jim Schlichting from the International Bureau; Parul Desai and Daniel Stepanicich from the Enforcement Bureau; and Jerusha Burnett, Mark Stone, and Kim Wild from the Consumer and Governmental Affairs Bureau.

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<sup>99</sup> Reply Comments of Forty-Two (42) State Attorneys General, WC Docket No. 18-335, at 3 (filed May 3, 2019).

**STATEMENT OF  
COMMISSIONER MICHAEL O'RIELLY**

Re: *Implementing Section 503 of RAY BAUM'S Act*, WC Docket No. 18-335; *Rules and Regulation Implementing the Truth in Caller ID Act of 2009*, WC Docket No. 11-39.

As I have stated many times before, a serious obstacle in ending illegal robocalls is that so many of the perpetrators are based overseas. According to YouMail's Robocall Index, a high portion of travel scams originate in Guatemala, Mexico, and Costa Rica; medical brace scam calls are known to originate in the Philippines and Latin America; and India is notorious for hosting IRS and Social Security scam callers.<sup>1</sup> This list is by no means exhaustive: overseas scam artists are constantly seeking new ways to steal Americans' hard-earned money, and new host countries will continue to be identified. In sum, eliminating illegal international robocalls entering the U.S. is a real challenge, especially as the Commission continues to ramp up efforts against domestic scammers.

Therefore, I appreciate the work of Congress in creating new statutory tools to target international, illegally spoofed calls—in other words, calls that intentionally falsify caller ID information for the purpose of tricking consumers. This added authority will enable the Commission to work more effectively with our international counterparts to curtail these harmful and fraudulent calls.

While I am grateful to Congress for this mandate, I must admit that some of the new statutory provisions give me pause. As I have expressed before, the expanded extraterritorial jurisdiction may prove difficult to execute in uncooperative nations and come back to bite us in other contexts. In addition, the definitions of text messaging and voice services are broader than my liking and may cause future unintended consequences.

Despite my preference for narrower statutory language, I don't believe it is my role to challenge the wisdom of our elected legislature and fully support the item because it is generally a faithful attempt to implement Congress' directive. However, one way we could have heeded the law more sensibly would have been to exclude application of our new rules to Short Codes, given the apparent lack of evidence, necessity, and notice. While my request to strike application of the rules to Short Codes didn't quite make the cut, I appreciate the draft's new language cabining regulation of the technology to the Truth in Caller ID context.

In the end, I am hopeful that this is the first step of many in authorizing the Commission to take action against foreign fraudsters who target Americans over the phone.

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<sup>1</sup> Madeline Purdue, *This Is Where Robocalls Are Coming From (and Where They Are Targeting)*, USA TODAY (July 9, 2019), <https://www.usatoday.com/story/tech/2019/07/09/where-robocalls-come-from-and-where-they-target/1660503001/>.

**STATEMENT OF  
COMMISSIONER JESSICA ROSENWORCEL**

Re: *Implementing Section 503 of RAY BAUM'S Act*, WC Docket No. 18-335; *Rules and Regulation Implementing the Truth in Caller ID Act of 2009*, WC Docket No. 11-39.

You think robocalls are getting worse? You're right. At the start of this Administration there were 2 billion robocalls a month, now there are roughly 5 billion.

There's not a lot of good news in the escalating mess of robocalls, but there's this: Congress has taken note. Last week, the House of Representatives passed a bill that provides this agency with new tools in the battle against robocalls. The Senate did the same earlier this year. Plus, our decision today implements legislation Congress passed last year in the RAY BAUM's Act to help hold accountable those who make illegal robocalls from overseas.

As a result of our work today, the Federal Communications Commission will be able to assess fines on international bad actors who use fake caller identification to send malicious calls to the United States. This closes a loophole in existing laws, so it represents progress.

Still, let's not kid ourselves. Because despite all of this activity, the calls are still tumbling in and consumers are fed up. It's time for a stronger approach. It's time to follow the money.

There is work underway in the industry to identify the network source of robocalls. It looks like this—say there is a call from Florida to Oregon. To get this communication from one coast to the other may require multiple phone companies handing the call off between one another as it traverses the country to reach its destination. This is a lot like taking a series of connecting flights on different airlines to travel across the country. Finding where illegal robocalls start in this system requires reverse engineering these handoffs to “traceback” these calls in order to determine where they were first put on the line. Figuring out where a call originates is important because the carrier at the start of the call path may have a financial incentive to allow illegal robocalls to get on the line or may find it convenient to take the money and look the other way. Through this traceback process, we can pinpoint the carriers that are the source of this problem and then put them on notice that they are facilitating bogus calls.

Sounds good, right? But to date there is something missing—and that's the FCC.

There is no public process for holding carriers who put this junk on the line accountable. There needs to be one. I think it should start with the FCC naming and shaming the carriers responsible for letting these nuisance calls onto the network. In other words, we could use this traceback process to shine a light on the worst offenders.

Next, the FCC could bring its enforcement authority to bear against carriers aiding and abetting robocallers. This could start by declaring that originating carriers that actively and knowingly facilitate illegal robocalls are engaging in an unjust and unreasonable practice in violation of the Communications Act. This would make it possible for the agency to penalize carriers responsible for these calls and even, if necessary, revoke their authorization to provide service.

This course of action is what we need right now. By following the money we can trace these annoying calls and help put a stop to them for good.

**STATEMENT OF  
COMMISSIONER GEOFFREY STARKS**

Re: *Implementing Section 503 of RAY BAUM'S Act*, WC Docket No. 18-335; *Rules and Regulation Implementing the Truth in Caller ID Act of 2009*, WC Docket No. 11-39.

I've always said that when it comes to robocalls, we need to have an "all-of-the-above" approach. Whether by wielding our regulatory power, informing and empowering consumers, providing carriers and other companies with new tools to address the problem, or faithfully implementing direction we receive from Congress – this is a big enough problem that we truly have to do it all.

Today's item, in my view, faithfully implements RAY BAUM'S Act giving the Commission additional tools to target harmful caller ID spoofing. Specifically, I am pleased that the Enforcement Bureau will now have greater ability to target harmful calls coming from outside the United States and reach spoofing using a wider range of services. We know that a significant portion of robocalls come from outside of this country and having the ability to track down bad actors in other countries and hold them accountable is critical. Today's action is a positive step.

I am thankful for the hard work of the Wireline Competition Bureau on this item, and look forward to seeing how my old home, the Enforcement Bureau, takes advantage of the new tools at its disposal.